



American Soils Engineering, LLC  
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**TEST PIT NUMBER TP-28**

PAGE 1 OF 1

CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/22/05 COMPLETED 7/22/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Brown, Slightly moist silty clay with gravel, loose
1.0			
			Brown, Slightly moist sandy clay with gravel, with rocks medium to dense
2.5			
5.0			
	BULK		
7.5			
10.0			
			excavation ends at 10'
12.5			
15.0			

GENERAL BY: \_\_\_\_\_  
WELL WITHOUT TESTING REMARKS COLUMN PN 1060-GEO.GPJ AMERICAN SOILS.GDT 9/16/05

Bottom of test pit at 15.0 feet.

ST-RH036018



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**TEST PIT NUMBER TP-29**

PAGE 1 OF 1

CLIENT Rhodes Homes of ArizonaPROJECT NUMBER PN 1060-GEODATE STARTED 7/22/05COMPLETED 7/22/05EXCAVATION CONTRACTOR American Soils EngineeringEXCAVATION METHOD BackhoeLOGGED BY Q. Babul P.E.CHECKED BY Q. Babul P.E.

NOTES \_\_\_\_\_

PROJECT NAME Phase I at Golden Valley RanchPROJECT LOCATION Golden Valley, Kingman Ranch

GROUND ELEVATION \_\_\_\_\_

TEST PIT SIZE \_\_\_\_\_

GROUND WATER LEVELS:

AT TIME OF EXCAVATION \_\_\_\_\_

AT END OF EXCAVATION \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown, Slightly moist silty clay with gravel, loose to medium dense
2.5			
	BULK		
3.0			Brown, Slightly moist silty sandy gravel with rocks, medium dense
5.0			
7.5			
10.0			
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036019



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# TEST PIT NUMBER TP-30

PAGE 1 OF 1

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley, Kingman Ranch

DATE STARTED 7/25/05 COMPLETED 7/25/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown, Slightly moist silty sandy with gravel, losot of medium dense
2.5			
			Brown, Slightly moist sandy with gravel with rocks medium to dense
5.0			
7.5			
10.0			
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036020



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**TEST PIT NUMBER TP-31**

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CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/25/05 COMPLETED 7/25/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD BackhoeAT TIME OF EXCAVATION ---LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.AT END OF EXCAVATION ---

NOTES \_\_\_\_\_

AFTER EXCAVATION ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
2.5			Light Brown, Slightly moist silty sandy with gravel, loose to medium dense
3.0			
5.0			Brown, Slightly moist silty sandy with gravel with rocks, medium to dense
7.5			
10.0			
10.0			excavation ends at 10'
12.5			
15.0			

GENERAL B: WELL WITHOUT TESTING REMARKS COLUMN PN 1060-GEO.GPJ AMERICAN SOILS GDT 9/16/05

BULK

Bottom of test pit at 15.0 feet.

ST-RH036021



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**TEST PIT NUMBER TP-32**

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CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/25/05 COMPLETED 7/25/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_

LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
2.5			Light Brown, Slightly moist 0'-3' silty sandy gravel, sandy gravel with cobble, loose to medium dense
4.0			
5.0	BULK		Brown, Slightly moist sandy gravel with rocks medium dense to dense
7.5			
8.0			Light Brown, Slightly moist sandy gravel partially cemented very dense
10.0			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036022



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**TEST PIT NUMBER TP-33**

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CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/25/05 COMPLETED 7/25/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
2.5			Light Brown, Slightly moist silty sandy with gravel, loose to medium dense
5.0			
7.5			
10.0			
12.5			
15.0			

excavation ends at 10'

Bottom of test pit at 15.0 feet.

ST-RH036023



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**TEST PIT NUMBER TP-34**

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CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/25/05 COMPLETED 7/25/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD BackhoeAT TIME OF EXCAVATION ---LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.AT END OF EXCAVATION ---

NOTES \_\_\_\_\_

AFTER EXCAVATION ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Brown, Slightly moist silty sandy with gravel, loose to medium dense
2.5			
	BULK		Brown, Slightly moist sandy gravel with rocks, medium to dense
5.0			
7.5			
10.0			
			Light Brown, Slightly moist sandy gravel, partially cemented, very dense
12.5			
15.0			
			excavation ends at 10'

Bottom of test pit at 15.0 feet.

ST-RH036024



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**TEST PIT NUMBER TP-35**

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CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/25/05COMPLETED 7/25/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E.CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
2.5			Light Brown, Slightly moist silty sandy with gravel, loose to medium dense
3.0			
5.0			Brown, Slightly moist silty sandy with gravel with rocks, medium to dense
7.0			
7.5			Light Brown, Slightly moist silty sandy gravel, partially cemented, very dense
10.0			excavation ends at 10'
12.5			
15.0			

GENERAL BHT - WELL WITHOUT TESTING REMARKS COLUMN PN 1060-GEO.GPJ AMERICAN SOILS.GDT 9/16/05

Bottom of test pit at 15.0 feet.

ST-RH036025





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**TEST PIT NUMBER TP-36**

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CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/25/05 COMPLETED 7/25/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD BackhoeAT TIME OF EXCAVATION ---LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.AT END OF EXCAVATION ---

NOTES \_\_\_\_\_

AFTER EXCAVATION ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Brown, Slightly moist silty sndy with gravel, loose to medium dense
1.0			
			Brown, Slightly moist silty sandy gravel with cobbles and rocks dense
2.5			
	BULK		
5.0			
			Light Brown, Slightly moist silty sandy gravel, partially cemented
7.5			
10.0			
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036026



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**TEST PIT NUMBER TP-37**

PAGE 1 OF 1

CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/25/05 COMPLETED 7/25/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD BackhoeAT TIME OF EXCAVATION ---LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.AT END OF EXCAVATION ---

NOTES \_\_\_\_\_

AFTER EXCAVATION ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
2.5			Light Brown, Slightly moist silty sandy gravel loose to medium dense
3.0			
5.0			Brown, slightly moist silty sandy gravel with rocks, dense
7.5			
10.0			
12.5			
15.0			

GENERAL B' 15.0  
12.5  
10.0  
7.5  
5.0  
2.5  
0.0  
TELL WITHOUT TESTING REMARKS COLUMN PN 1060-GEO.GPJ AMERICAN SOILS.GDT 9/16/05

BULK

10.0  
excavation ends at 10'

Bottom of test pit at 15.0 feet.

ST-RH036027



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**TEST PIT NUMBER TP-38**

PAGE 1 OF 1

CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 7/28/05 COMPLETED 7/28/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			Light Brown Slightly moist silty sandy with gravel loose to medium dense
2.5			
4.0			
5.0	BULK		Brown, Slightly moist silty sandy gravel with rocks dense
7.5			
8.0			Light Brown, Slightly moist sandy gravel partially cemented very dense
10.0			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036028



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**TEST PIT NUMBER TP-39**

PAGE 1 OF 1

CLIENT Rhodes Homes of ArizonaPROJECT NUMBER PN 1060-GEODATE STARTED 7/25/05COMPLETED 7/25/05EXCAVATION CONTRACTOR American Soils EngineeringEXCAVATION METHOD BackhoeLOGGED BY Q. Babul P.E.CHECKED BY Q. Babul P.E.

NOTES \_\_\_\_\_

PROJECT NAME Phase I at Golden Valley RanchPROJECT LOCATION Golden Valley, Kingman Ranch

GROUND ELEVATION \_\_\_\_\_

TEST PIT SIZE \_\_\_\_\_

GROUND WATER LEVELS:

AT TIME OF EXCAVATION \_\_\_\_\_

AT END OF EXCAVATION \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown, Slightly moist fine silty sandy with gravel, loose to medium dense
2.5			
			Brown, Slightly moist silty sandy with gravel and rocks dense
5.0			
	BULK		
7.5			
			Light Brown Slightly moist silty sandy with gravel partially cemented, very dense
10.0			
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036029



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**TEST PIT NUMBER TP-40**

PAGE 1 OF 1

CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 8/29/05COMPLETED 8/29/05

GROUND ELEVATION \_\_\_\_\_

TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD BackhoeAT TIME OF EXCAVATION ---LOGGED BY Q. Babul P.E.CHECKED BY Q. Babul P.E.AT END OF EXCAVATION ---

NOTES \_\_\_\_\_

AFTER EXCAVATION ---

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Brown Slightly moist silty sandy with gravel, loose
	BULK 1	1.0	
			Brown Slightly moist silty sandy with gravel, medium dense
2.5			
	BULK 2		
5.0			
		6.5	
			Light Brown Slightly moist partially cemented sandy gravel with boulders, very dense
7.5			
10.0		10.0	
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036030



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**TEST PIT NUMBER TP-41**

PAGE 1 OF 1

CLIENT Rhodes Homes of ArizonaPROJECT NAME Phase I at Golden Valley RanchPROJECT NUMBER PN 1060-GEOPROJECT LOCATION Golden Valley, Kingman RanchDATE STARTED 8/29/05 COMPLETED 8/29/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			Brown Slightly moist silty sandy with gravel, loose
2.5	BULK 1		Light Brown Slightly moist silty sandy with gravel, with boulders dense
5.0	BULK 2		Light Brown Slightly moist sandy silty gravel, partially cemented hard
10.0			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036031



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# TEST PIT NUMBER TP-42

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CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley, Kingman Ranch

DATE STARTED 8/29/05

COMPLETED 8/29/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E.

CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown Slightly moist silty sand with gravel, loose
			1.0
			Brown Slightly moist silty sandy gravel, medium dense
2.5	BULK 1		
5.0	BULK 2		
7.5			
10.0			10.0
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036032



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# TEST PIT NUMBER TP-43

PAGE 1 OF 1

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley, Kingman Ranch

DATE STARTED 8/29/05 COMPLETED 8/29/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E. CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown Slightly moist silty sand with gravel, loose
1.0			
			Brown Slightly moist silty sandy with gravel, medium dense
2.5	BULK 1		
5.0	BULK 2		
			Light Brown Slightly moist sandy gravel cemented, very dense
7.5			
10.0			
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036033





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# TEST PIT NUMBER TP-44

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CLIENT Rhodes Homes of Arizona

PROJECT NUMBER PN 1060-GEO

DATE STARTED 8/29/05

COMPLETED 8/29/05

EXCAVATION CONTRACTOR American Soils Engineering

EXCAVATION METHOD Backhoe

LOGGED BY Q. Babul P.E.

CHECKED BY Q. Babul P.E.

NOTES

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT LOCATION Golden Valley, Kingman Ranch

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

GROUND WATER LEVELS:

AT TIME OF EXCAVATION \_\_\_\_\_

AT END OF EXCAVATION \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown Slightly moist sandy gravel, loose
2.5	BULK 1		Dark Brown Slightly moist silty sandy gravel, medium dense to dense
5.0	BULK 2		
7.5			
10.0			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036034



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# TEST PIT NUMBER TP-45

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CLIENT Rhodes Homes of Arizona

PROJECT NUMBER PN 1060-GEO

DATE STARTED 8/29/05

COMPLETED 8/29/05

EXCAVATION CONTRACTOR American Soils Engineering

EXCAVATION METHOD Backhoe

LOGGED BY Q. Babul P.E.

CHECKED BY Q. Babul P.E.

NOTES

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT LOCATION Golden Valley, Kingman Ranch

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

GROUND WATER LEVELS:

AT TIME OF EXCAVATION \_\_\_\_\_

AT END OF EXCAVATION \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown Slightly moist silty sandy gravel, loose
			1.0
			Brown Slightly moist silty sandy gravel, medium dense
2.5	BULK 1		
5.0	BULK 2		
7.5			
10.0			10.0
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036035



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**TEST PIT NUMBER TP-46**

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CLIENT Rhodes Homes of ArizonaPROJECT NUMBER PN 1060-GEODATE STARTED 8/29/05COMPLETED 8/29/05EXCAVATION CONTRACTOR American Soils EngineeringEXCAVATION METHOD BackhoeLOGGED BY Q. Babul P.E.CHECKED BY Q. Babul P.E.

NOTES \_\_\_\_\_

PROJECT NAME Phase I at Golden Valley RanchPROJECT LOCATION Golden Valley, Kingman Ranch

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

GROUND WATER LEVELS:

AT TIME OF EXCAVATION \_\_\_\_\_

AT END OF EXCAVATION \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown Slightly moist silty sandy with gravel, loose
			1.0
			Light Brown Slightly moist silty sandy gravel with rocks, medium dense to very dense
2.5	BULK 1		
5.0	BULK 2		
7.5			
10.0			10.0
			excavation ends at 10'
12.5			
15.0			

GENERAL 8" WELL WITHOUT TESTING REMARKS COLUMN PN 1060-GEO.GPJ AMERICAN SOILS.GDT 9/16/05

Bottom of test pit at 15.0 feet.

ST-RH036036



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# TEST PIT NUMBER TP-47

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CLIENT Rhodes Homes of Arizona

PROJECT NUMBER PN 1060-GEO

DATE STARTED 8/29/05

COMPLETED 8/29/05

EXCAVATION CONTRACTOR American Soils Engineering

EXCAVATION METHOD Backhoe

LOGGED BY Q. Babul P.E.

CHECKED BY Q. Babul P.E.

NOTES

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT LOCATION Golden Valley, Kingman Ranch

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

GROUND WATER LEVELS:

AT TIME OF EXCAVATION \_\_\_\_\_

AT END OF EXCAVATION \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown Slightly moist silty sandy gravel, loose to dense
			1.0
			Brown Slightly moist silty sandy gravel, with boulders medium to dense
2.5	BULK 1		
5.0	BULK 2		
7.5			
10.0			10.0
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036037



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# TEST PIT NUMBER TP-48

PAGE 1 OF 1

CLIENT Rhodes Homes of Arizona

PROJECT NUMBER PN 1060-GEO

DATE STARTED 8/29/05

COMPLETED 8/29/05

EXCAVATION CONTRACTOR American Soils Engineering

EXCAVATION METHOD Backhoe

LOGGED BY Q. Babul P.E.

CHECKED BY Q. Babul P.E.

NOTES

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT LOCATION Golden Valley, Kingman Ranch

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

GROUND WATER LEVELS:

AT TIME OF EXCAVATION \_\_\_\_\_

AT END OF EXCAVATION \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			Light Brown Slightly moist silty sandy with gravel, loose
			1.0
			Brown Slightly moist silty sandy gravel, with rocks dense
2.5			
	BULK 1		
5.0			
	BULK 2		
7.5			
10.0			10.0
			excavation ends at 10'
12.5			
15.0			

Bottom of test pit at 15.0 feet.

ST-RH036038



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# TEST PIT NUMBER TP-49

PAGE 1 OF 1

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley, Kingman Ranch

DATE STARTED 8/29/05

COMPLETED 8/29/05

GROUND ELEVATION \_\_\_\_\_ TEST PIT SIZE \_\_\_\_\_

EXCAVATION CONTRACTOR American Soils Engineering

GROUND WATER LEVELS:

EXCAVATION METHOD Backhoe

AT TIME OF EXCAVATION \_\_\_\_\_

LOGGED BY Q. Babul P.E.

CHECKED BY Q. Babul P.E.

AT END OF EXCAVATION \_\_\_\_\_

NOTES \_\_\_\_\_

AFTER EXCAVATION \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0			
			LightBrown Slightly moist silty sandy gravel, loose
			1.0
			Brown Slightly moist silty sandy gravelwith boulders dense
2.5	BULK 1		
5.0	BULK 2		
7.5			
10.0			10.0
			excavation ends at 10'
12.5			
15.0			

GENERAL REMARKS: WELL WITHOUT TESTING REMARKS COLUMN PN 1060-GEO.GPJ AMERICAN SOILS.GDT 9/16/05

Bottom of test pit at 15.0 feet.

ST-RH036039

# APPENDIX B

**LABORATORY TESTS RESULTS (P.N. 1060-GEO)****EXPANSION TESTS**

Swell tests were performed on 33 remolded samples, which were collected during subsurface exploration of the subject site. The samples were remolded at 90 percent of the material's maximum dry density. Samples were tested under a 60 pound per square foot surcharge. Test results are listed below:

<b>Sample Location</b>	<b>Sample Depth</b>	<b>Swell (%)</b>	<b>Expansion Classification</b>
TP-1	3 feet	1.8	Low Expansive
TP-3	5 feet	0.9	Low Expansive
TP-4	3 feet	1.5	Low Expansive
TP-5	5 feet	0.5	Low Expansive
TP-7	8 feet	1.0	Low Expansive
TP-8	5 feet	0.9	Low Expansive
TP-13	3 feet	1.7	Low Expansive
TP-20	2 feet	2.6	Low Expansive
TP-20	5 feet	1.1	Low Expansive
TP-25	5 feet	0.7	Low Expansive
TP-33	5 feet	1.3	Low Expansive
TP-35	7 feet	1.4	Low Expansive
TP-39	2 feet	1.2	Low Expansive
TP-40	1.5 feet	4.9	Moderately Expansive
TP-40	3 feet	1.1	Low Expansive
TP-41	2 feet	6.7	Moderately Expansive
TP-41	5 feet	1.6	Low Expansive
TP-42	2 feet	2.5	Low Expansive
TP-42	5 feet	0.9	Low Expansive
TP-43	2 feet	6.4	Moderately Expansive
TP-43	5 feet	0.5	Low Expansive
TP-44	2 feet	4.9	Moderately Expansive
TP-44	5 feet	1.0	Low Expansive
TP-45	2 feet	2.5	Low Expansive
TP-45	5 feet	2.5	Low Expansive
TP-46	3 feet	2.1	Low Expansive
TP-46	6 feet	0.6	Low Expansive
TP-47	2 feet	2.1	Low Expansive
TP-47	6 feet	1.1	Low Expansive
TP-48	2 feet	1.5	Low Expansive
TP-48	5 feet	0.5	Low Expansive
TP-49	3 feet	1.7	Low Expansive
TP-49	3 feet	0.7	Low Expansive



## LABORATORY TESTS RESULTS (P.N. 1060-GEO)

### Chemical Testing

To evaluate the corrosive potential of the subsurface soils at the subject site, five samples were submitted to *Atlas Chemical Testing Laboratories* to test the soils for sodium (Na), water soluble sulfate (SO<sub>4</sub>), and total available water soluble sulfate (Na<sub>2</sub>SO<sub>4</sub>). A copy of the results provided by the Atlas Chemical Testing Laboratories is enclosed herein. Test results tests are summarized below in Table 1.

**Table-1 Results of Chemical Testing**

Sample Location	Depth (feet)	Sodium (Na) (%)	Water Soluble Sulfate (SO <sub>4</sub> ) (%)	Total Available Water Soluble Sodium Sulfate (Na <sub>2</sub> SO <sub>4</sub> ) (%)
B-40	2.0	0.01	0.03	0.02
B-42	2.0	0.01	0.01	0.01
B-44	5.0	0.01	0.01	0.01
B-46	2.0	0.01	0.11	0.01
B-49	5.0	0.01	0.04	0.04

### **Atterberg Limits (ASTM test method D 4318)**

Testing were performed on the samples in general accordance with ASTM test method D 4318-98, using the wet preparation method. Test results as follows:

SAMPLES	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
TP-20 @ 3 feet	None plastic	None plastic	None plastic
TP-23 @ 5 feet	None plastic	None plastic	None plastic
TP-27 @ 3 feet	22	20	2
TP-28 @ 1 foot	23	17	6
TP-30 @ 2.0	None plastic	None plastic	None plastic
TP-34 @ 6 feet	None plastic	None plastic	None plastic
TP-36 @ 1 foot	None plastic	None plastic	None plastic
TP-38 @ 4 feet	None plastic	None plastic	None plastic
TP-40 @ 2 feet	24	19	5
TP-42 @ 5 feet	22	19	3
TP-44 @ 2 feet	23	20	3
TP-45 @ 2 feet	23	20	3
TP-46 @ 2 feet	None plastic	None plastic	None plastic

# Atlas Consultants, Inc.

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member of  
 AMERICAN SOCIETY FOR  
 TESTING MATERIALS



ACT LAB NO: 13320(a)

DATE: September 12, 2005

PROJECT NO: PN=1060-GEO

P.O.:

ANALYZED BY: Robert L. Summers

LAB ID:

## WATER SOLUBLE SALT ANALYSIS IN SOIL

1:5 (soil:water) Aqueous Extraction  
 AWWA 3500-Na D, AWWA 4500 E  
 AWWA 2540 C

SOIL SIEVE SIZE = -10 MESH

Sample No.	Location	Depth (feet)	Sodium (Percent)	Water Soluble Sulfate (SO <sub>4</sub> ) (Percent)	Total Available Water Soluble Sodium Sulfate (Na <sub>2</sub> SO <sub>4</sub> ) (Percent)
	TP#40	2.0	0.01	0.03	0.02
Solubility = 0.06%					
	TP#42	2.0	<0.01	0.01	<0.01
Solubility = 0.03%					
	TP#44	5.0	<0.01	0.01	0.01
Solubility = 0.04%					
	TP#46	2.0	<0.01	0.01	<0.01
Solubility = 0.03%					
	TP#49	5.0	0.01	0.04	0.04
Solubility = 0.09%					

LABORATORY MANAGER

N : The results for each constituent denote the percentage of that analyte, at a 1:5 (soil:water) extraction ratio, which is present in the soil. Sodium was determined by flame photometry, sulfate turbidimetrically, and sodium sulfate by calculation.

ST-RH036043



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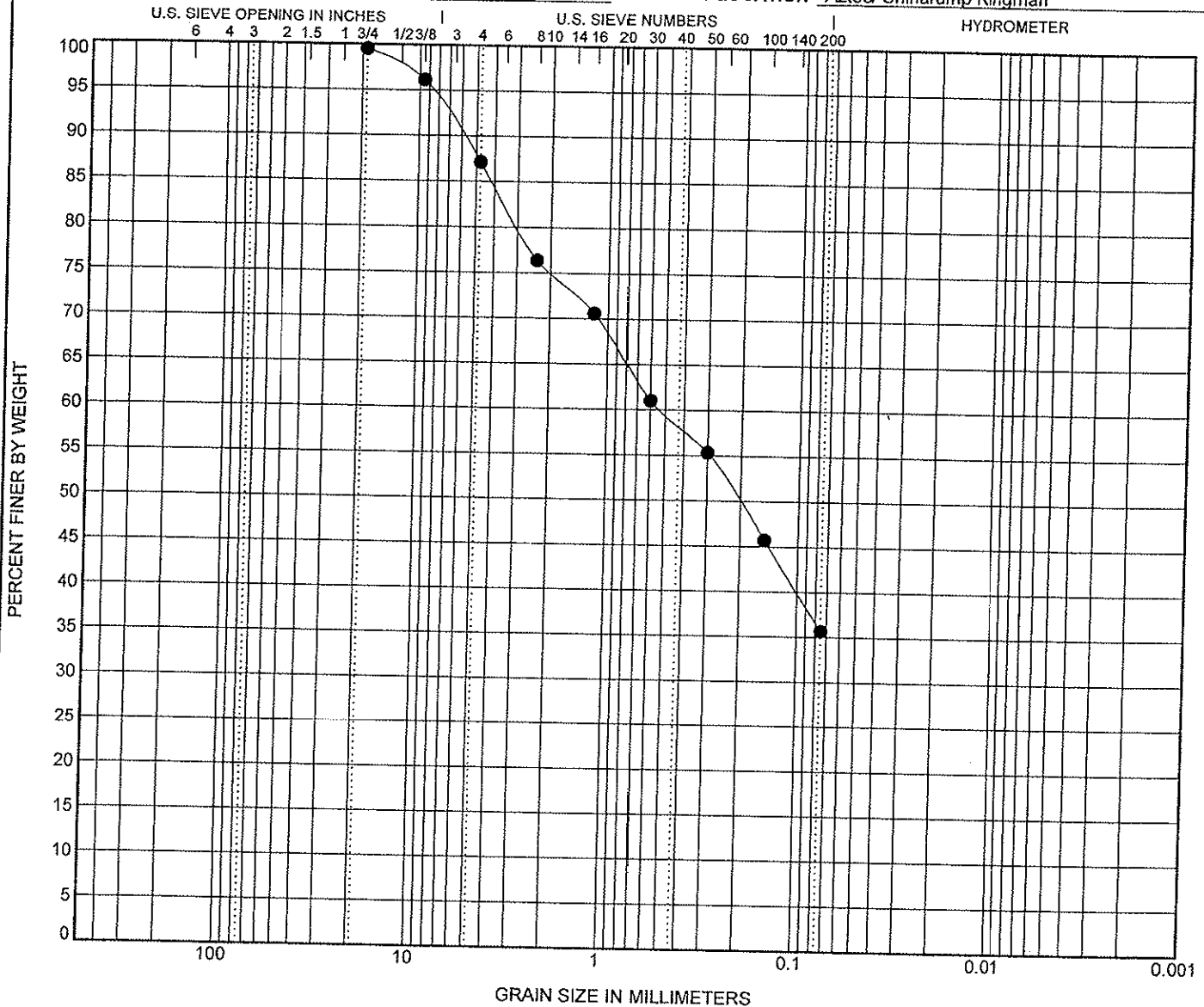
# GRAIN SIZE DISTRIBUTION

CLIENT Rhodes Homes

PROJECT NAME Golden Valley Ranch Kingman

PROJECT NUMBER PN-1060

PROJECT LOCATION Aztec/ Shinarump Kingman





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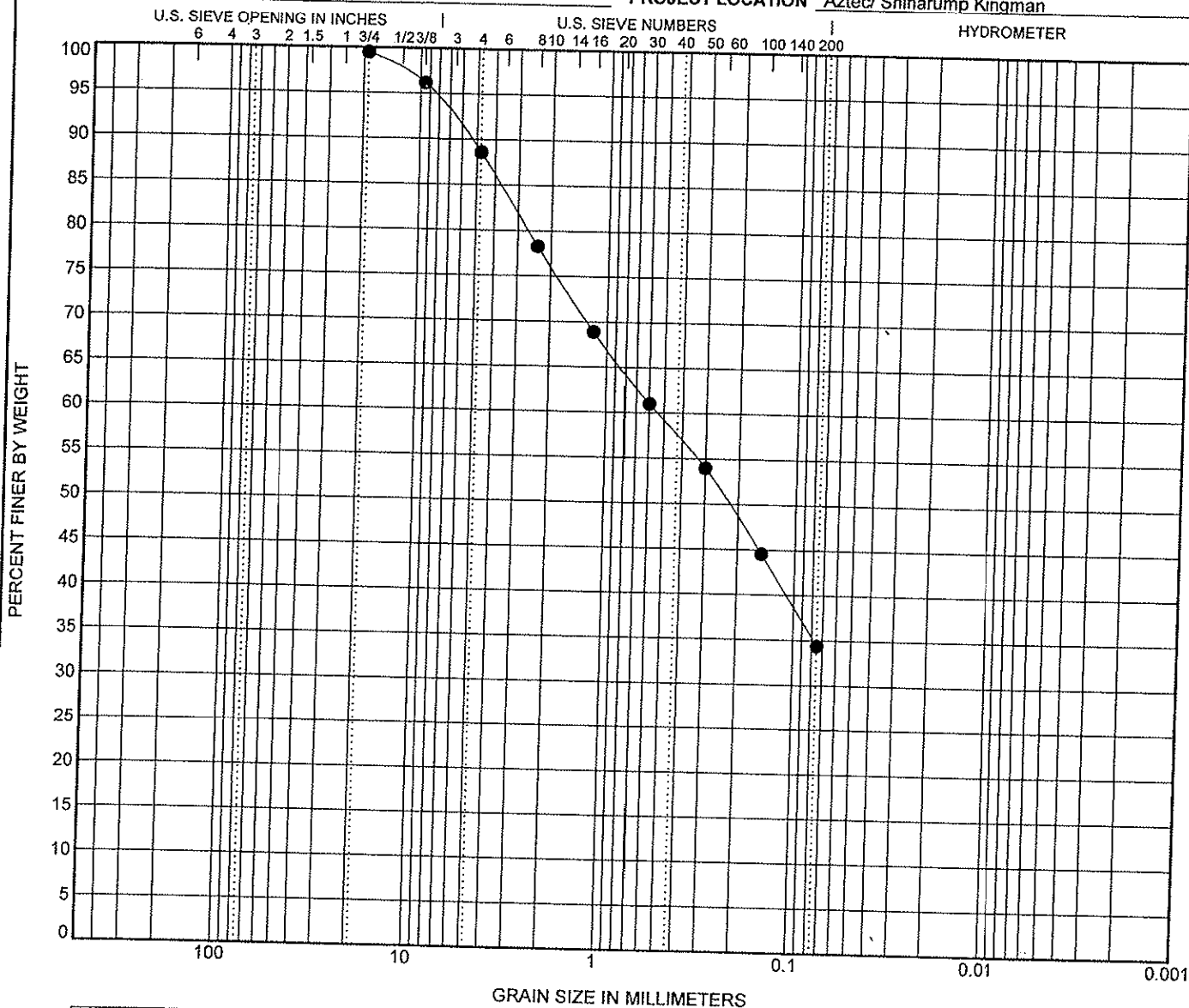
# GRAIN SIZE DISTRIBUTION

CLIENT Rhodes Homes

PROJECT NAME Golden Valley Ranch Kingman

PROJECT NUMBER PN-1060

PROJECT LOCATION Aztec/ Shinarump Kingman





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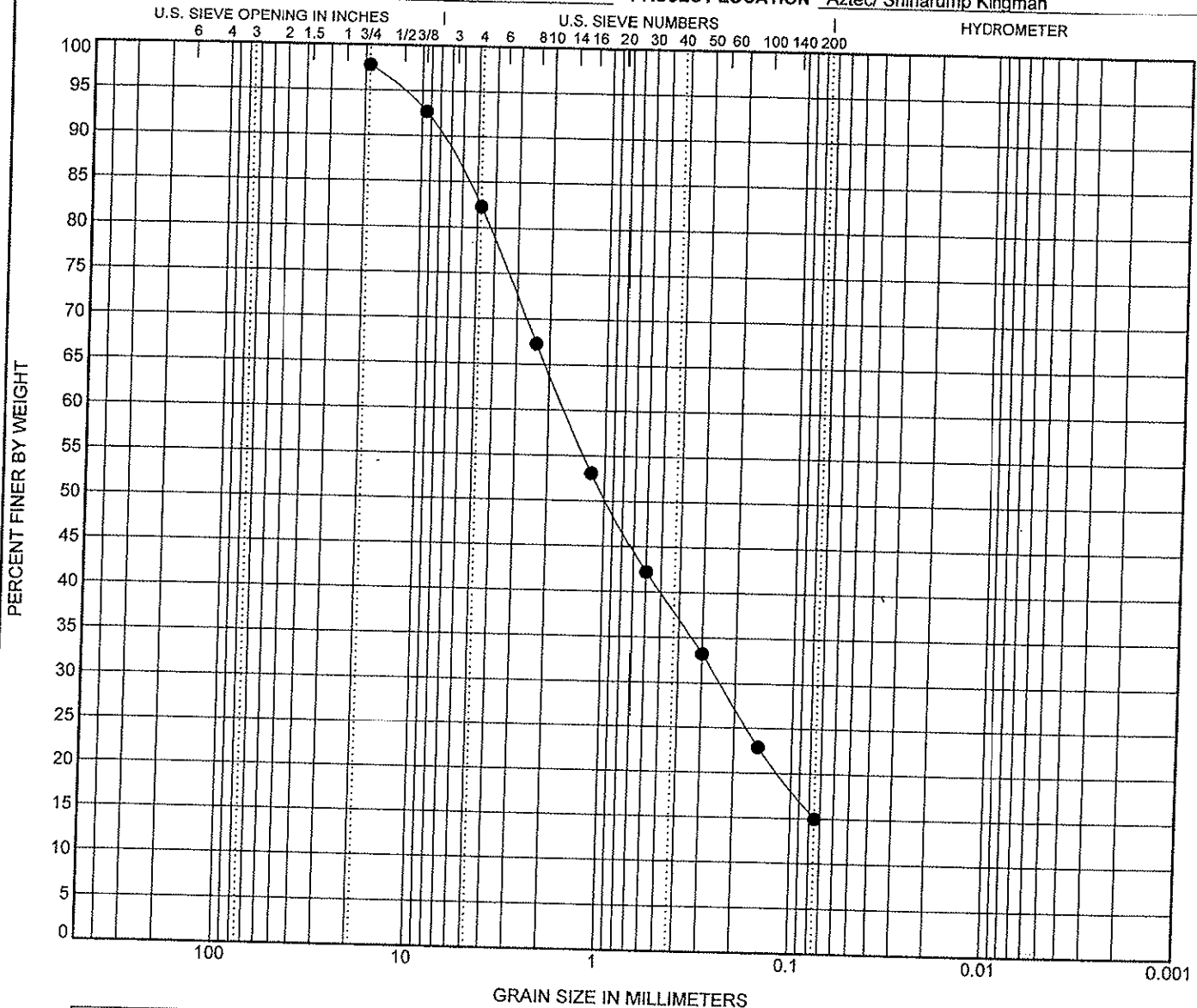
# GRAIN SIZE DISTRIBUTION

CLIENT Rhodes Homes

PROJECT NAME Golden Valley Ranch Kingman

PROJECT NUMBER PN-1060

PROJECT LOCATION Aztec/ Shinarump Kingman



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sieve Size	6"	3"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#10	#16	#30	#40	#50	#100	#200
Percent Passing						98		93	82	67		53	42		33	23	15
Spec. %																	
Result																	

Specimen Identification			Classification							LL	PL	PI
✓ Tp-8 2			SILTY SAND with GRAVEL(SM)							NP	NP	NP
Cc	Cu	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay			
		19	1.655	0.242		15.5	67.3	15.0				

ST-RH036046





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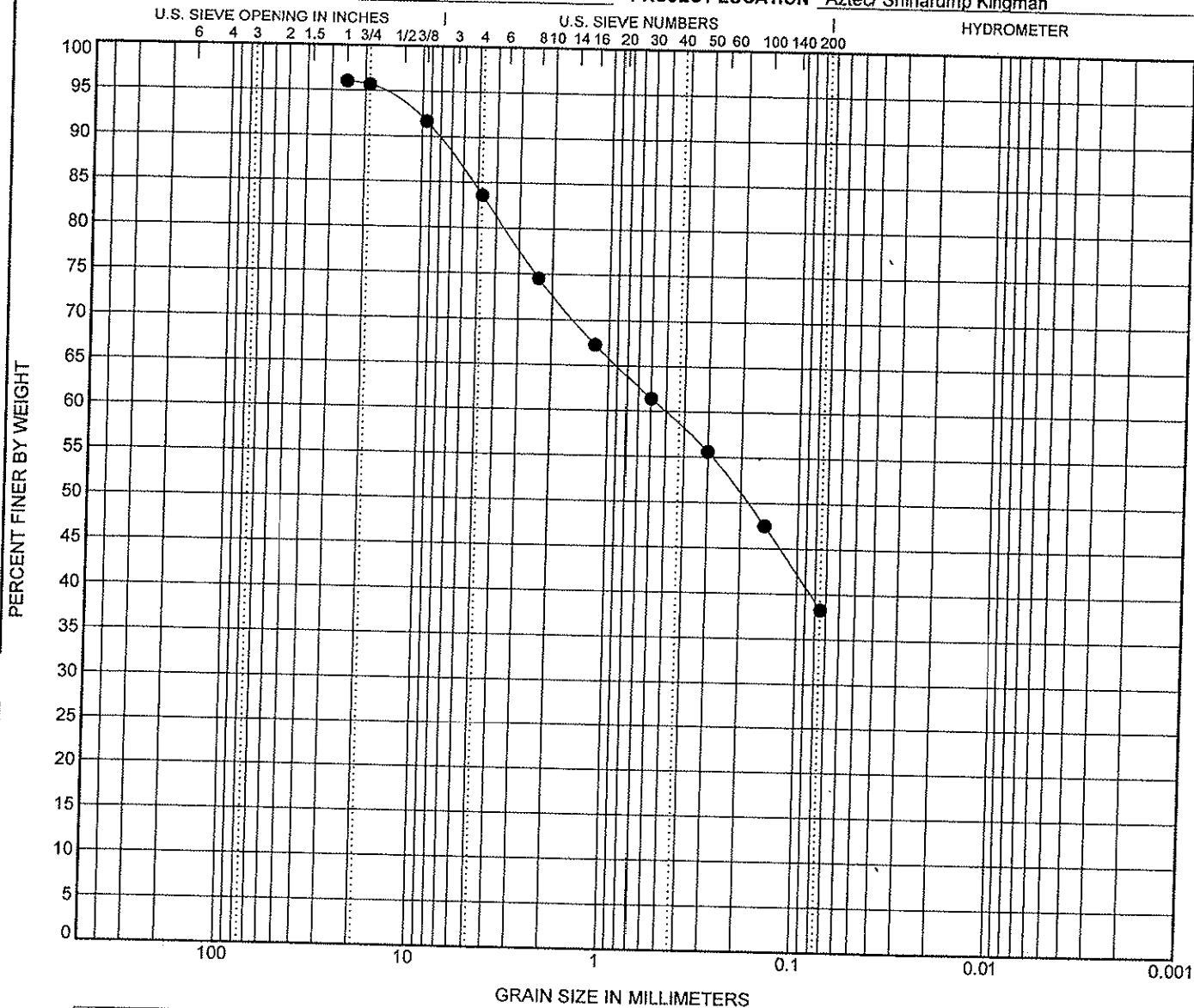
# GRAIN SIZE DISTRIBUTION

CLIENT Rhodes Homes

PROJECT NAME Golden Valley Ranch Kingman

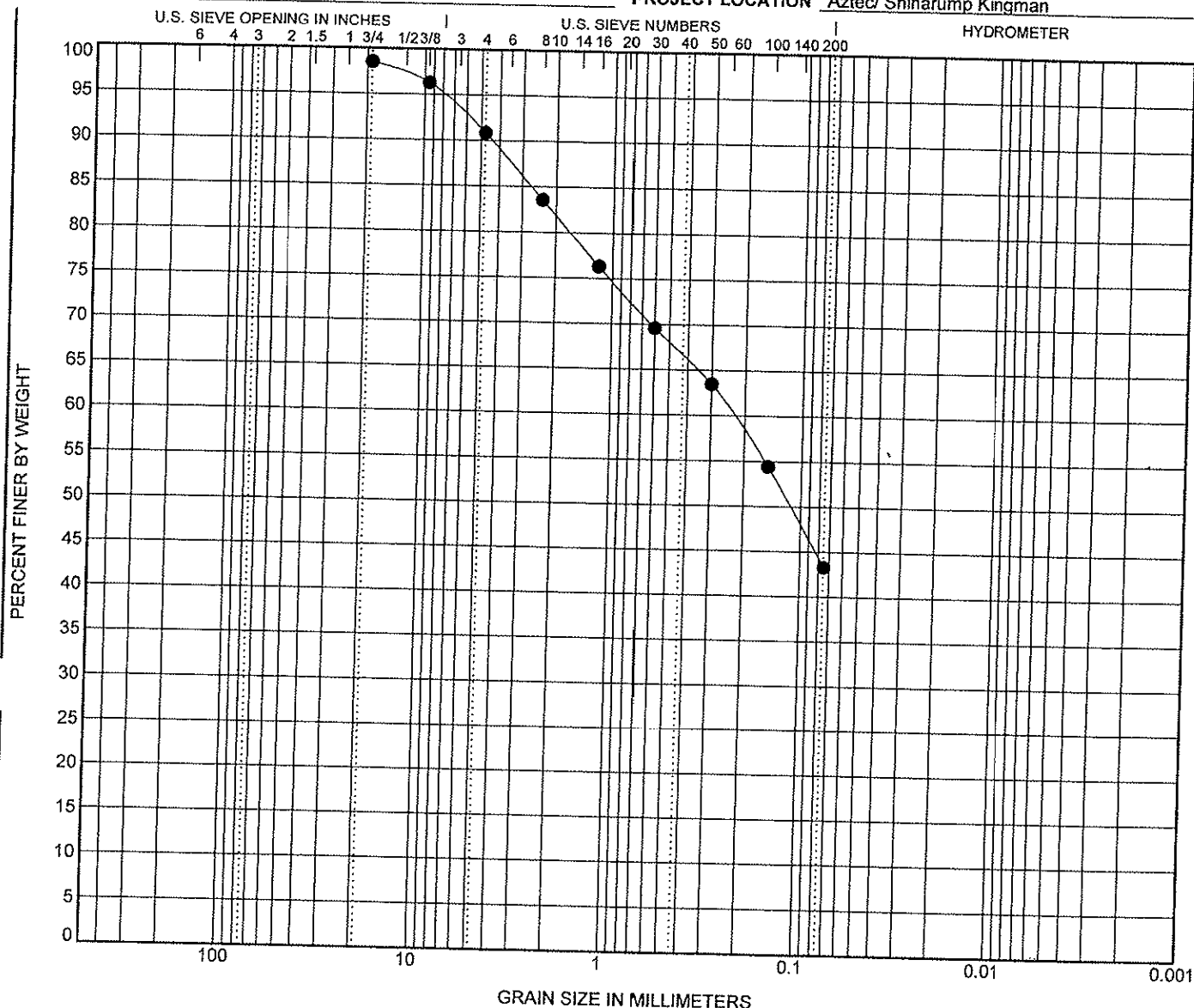
PROJECT NUMBER PN-1060

PROJECT LOCATION Aztec/ Shinarump Kingman





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**GRAIN SIZE DISTRIBUTION**CLIENT Rhodes HomesPROJECT NAME Golden Valley Ranch KingmanPROJECT NUMBER PN-1060PROJECT LOCATION Aztec/ Shinarump Kingman



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

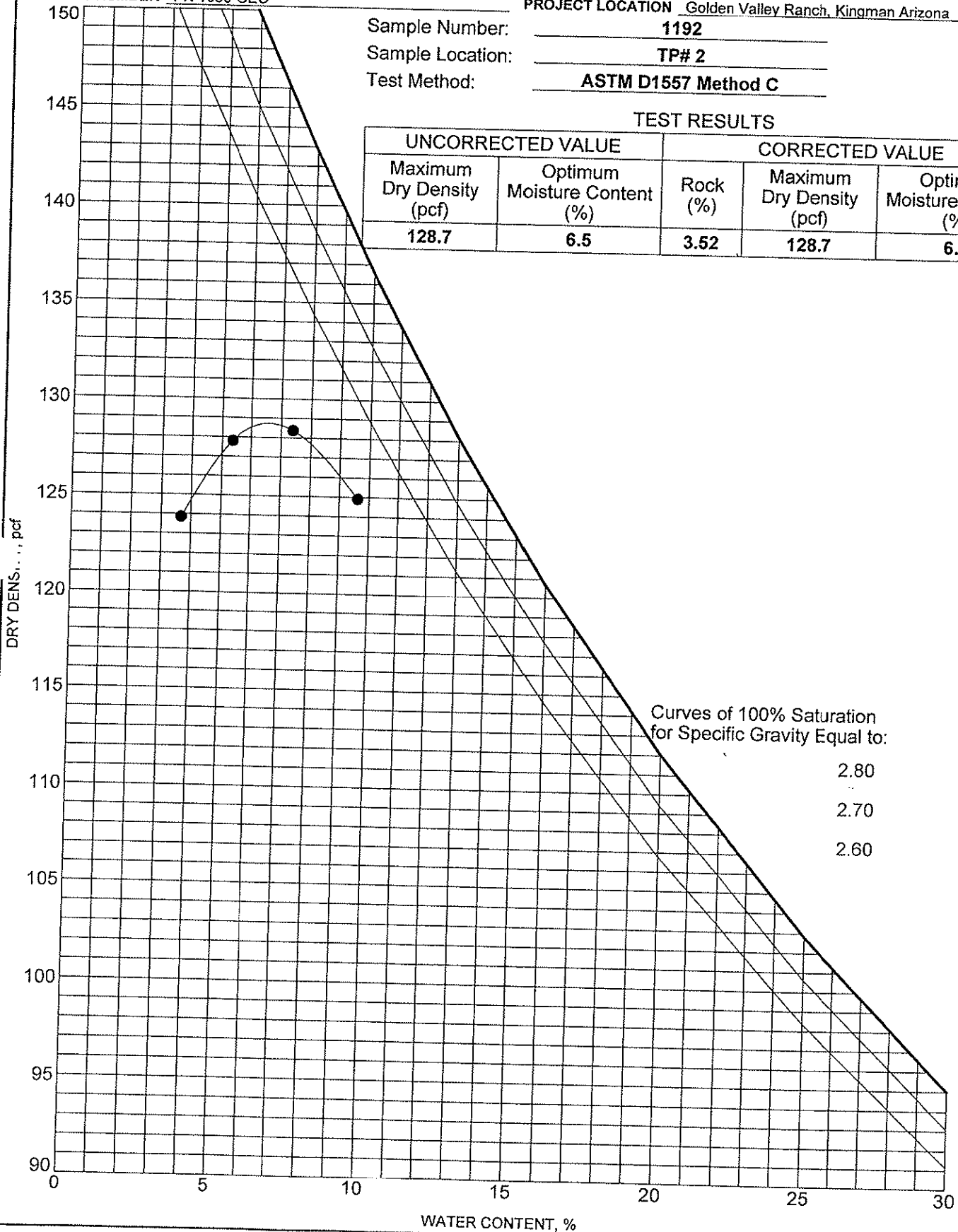
PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: **1192**  
Sample Location: **TP# 2**  
Test Method: **ASTM D1557 Method C**

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
128.7	6.5	3.52	128.7	6.5



ST-RH036049





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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

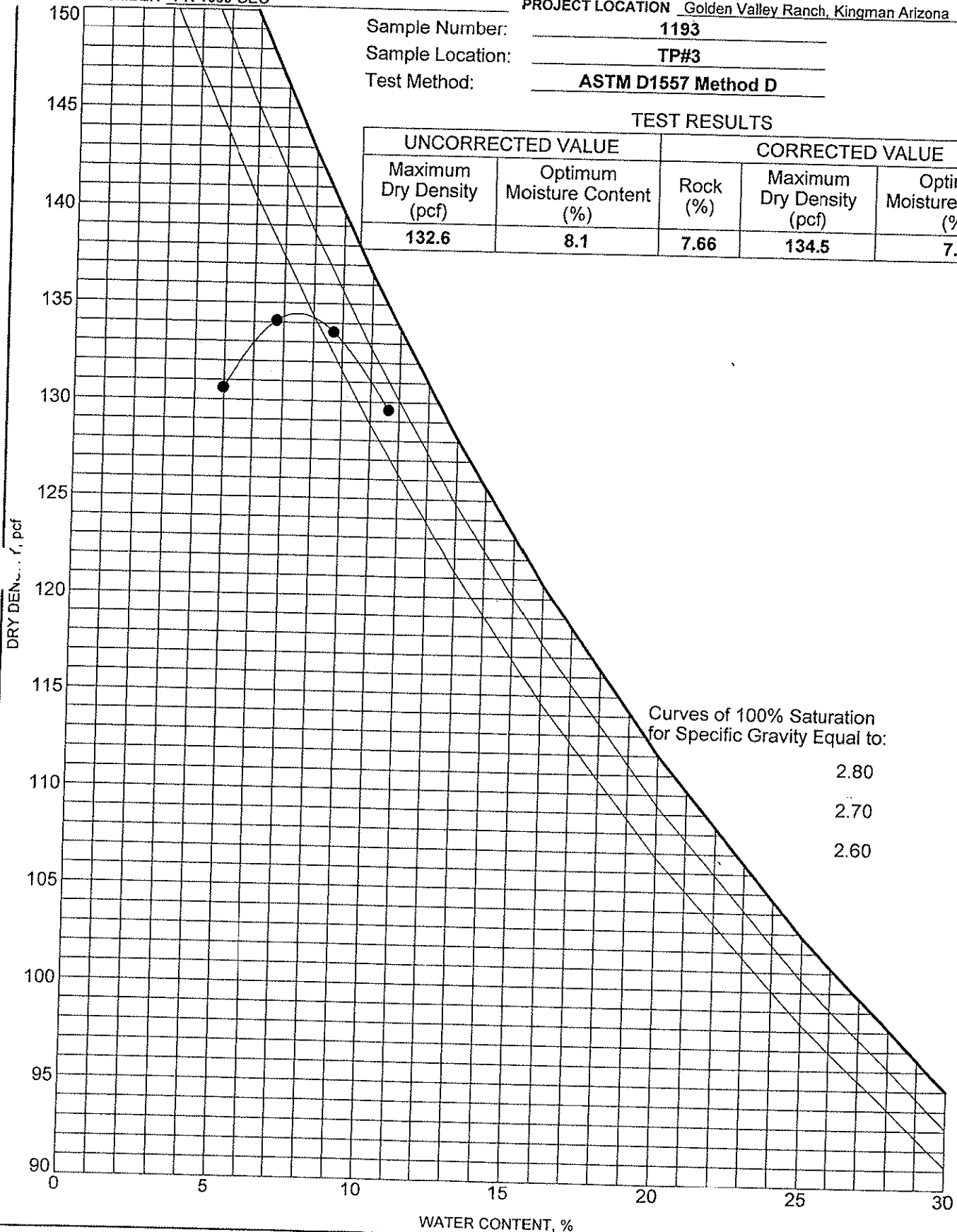
Sample Number: 1193

Sample Location: TP#3

Test Method: ASTM D1557 Method D

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
132.6	8.1	7.66	134.5	7.5



ST-RH036050



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

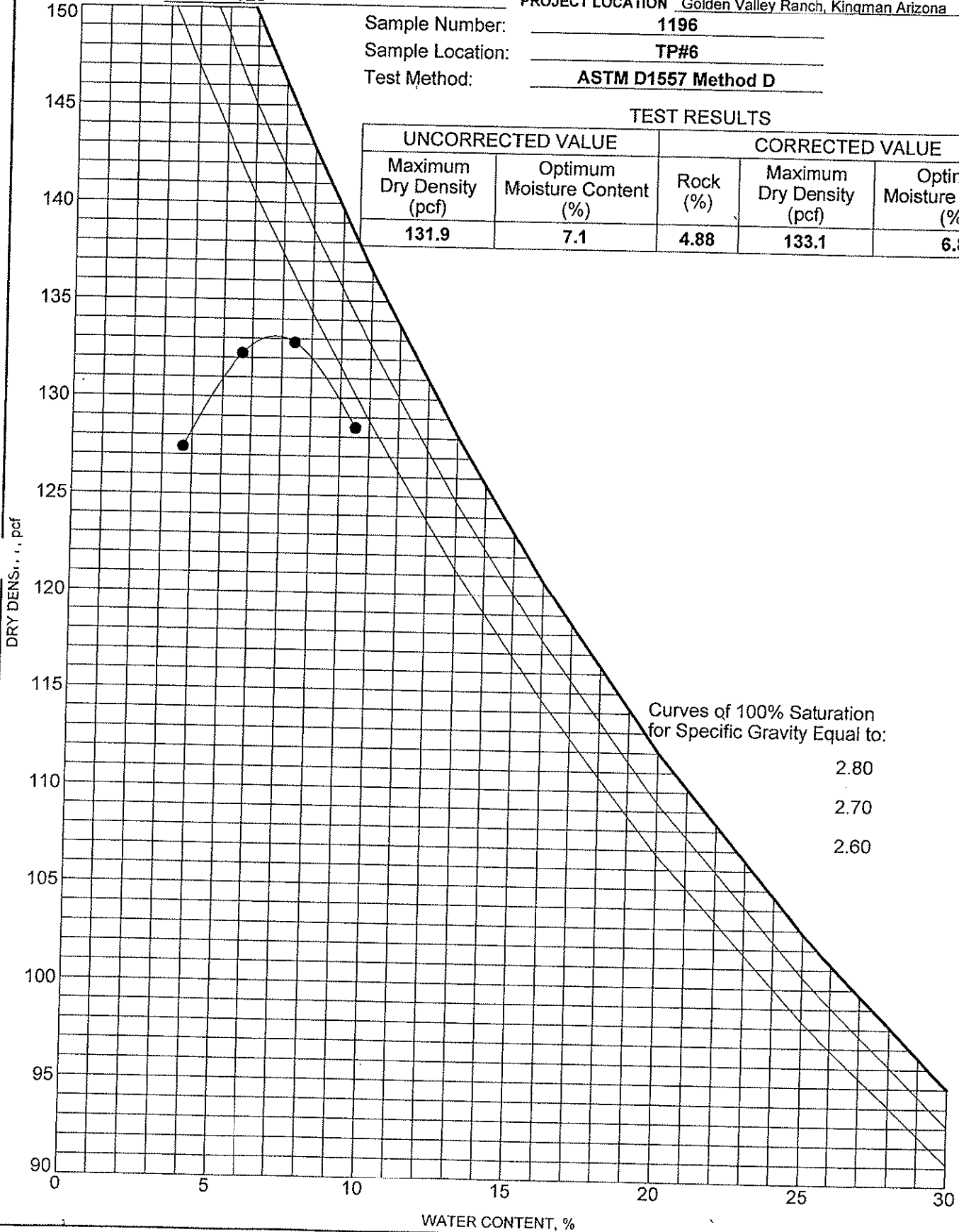
PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: 1196  
Sample Location: TP#6  
Test Method: ASTM D1557 Method D

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
131.9	7.1	4.88	133.1	6.8



ST-RH036051



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: \_\_\_\_\_

Sample Location: \_\_\_\_\_

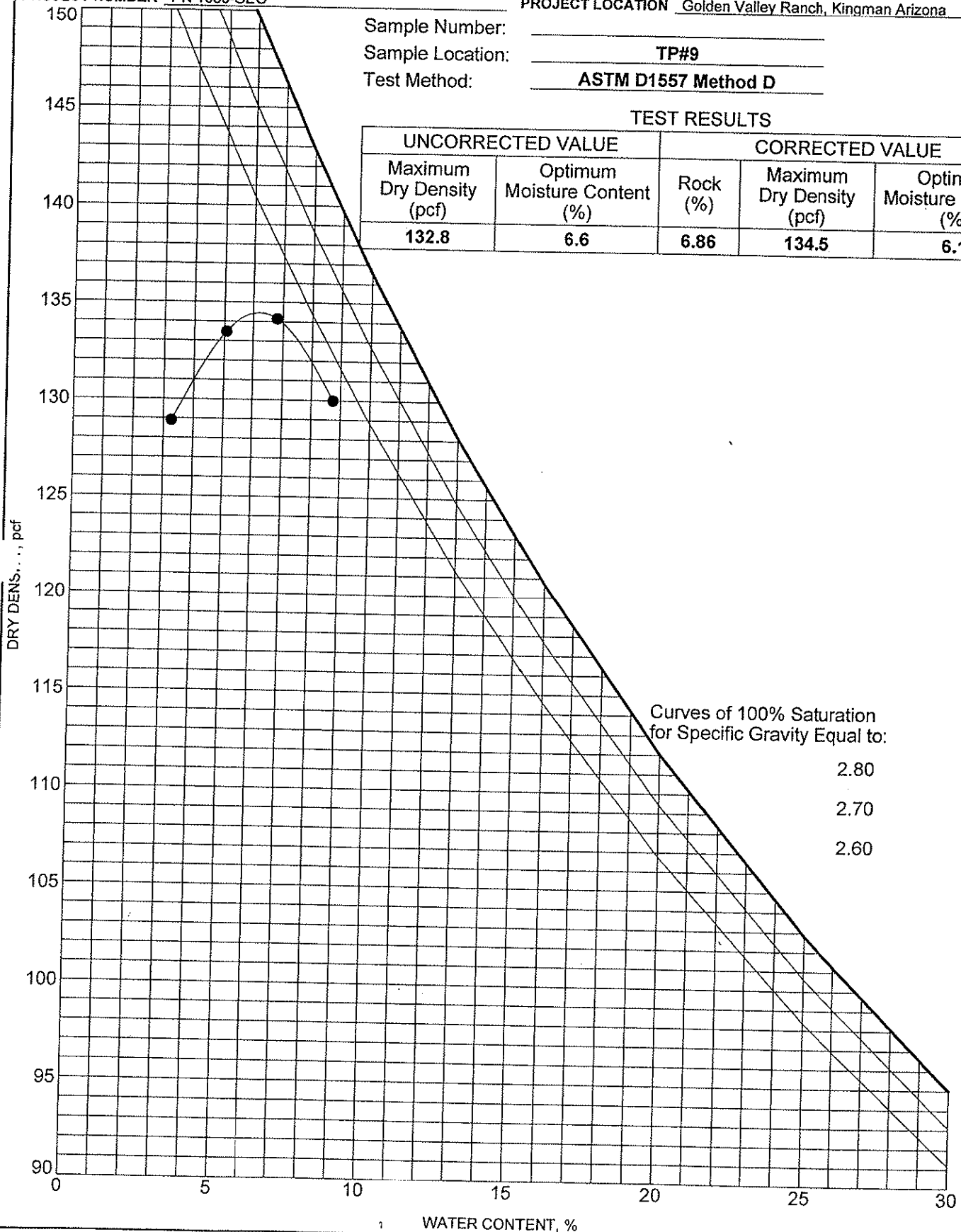
Test Method: \_\_\_\_\_

TP#9

ASTM D1557 Method D

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
132.8	6.6	6.86	134.5	6.1



ST-RH036052



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: \_\_\_\_\_

Sample Location: \_\_\_\_\_

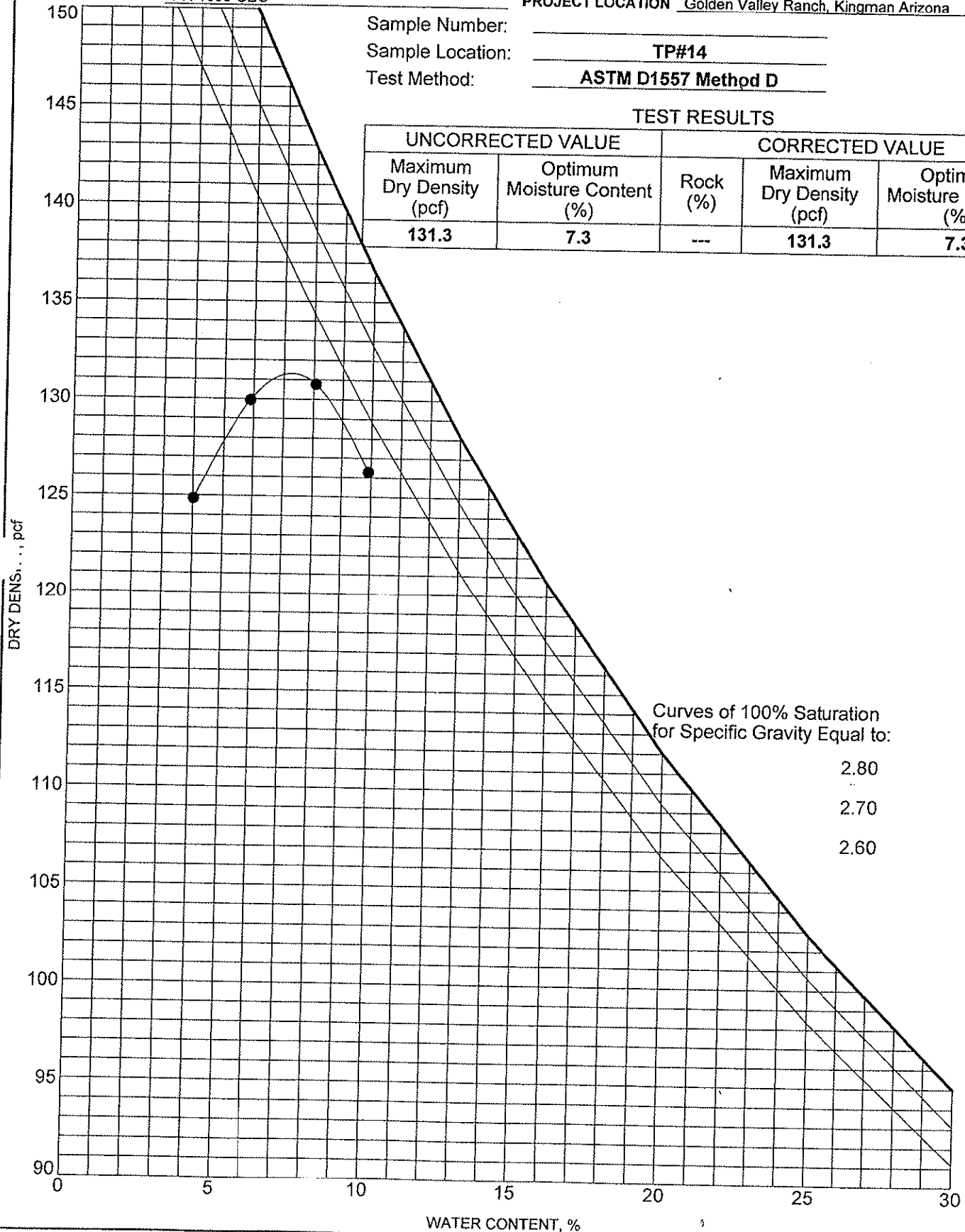
Test Method: \_\_\_\_\_

TP#14

ASTM D1557 Method D

## TEST RESULTS

UNCORRECTED VALUE		Rock (%)	CORRECTED VALUE	
Maximum Dry Density (pcf)	Optimum Moisture Content (%)		Maximum Dry Density (pcf)	Optimum Moisture Content (%)
131.3	7.3	---	131.3	7.3



ST-RH036053



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: \_\_\_\_\_

Sample Location: \_\_\_\_\_

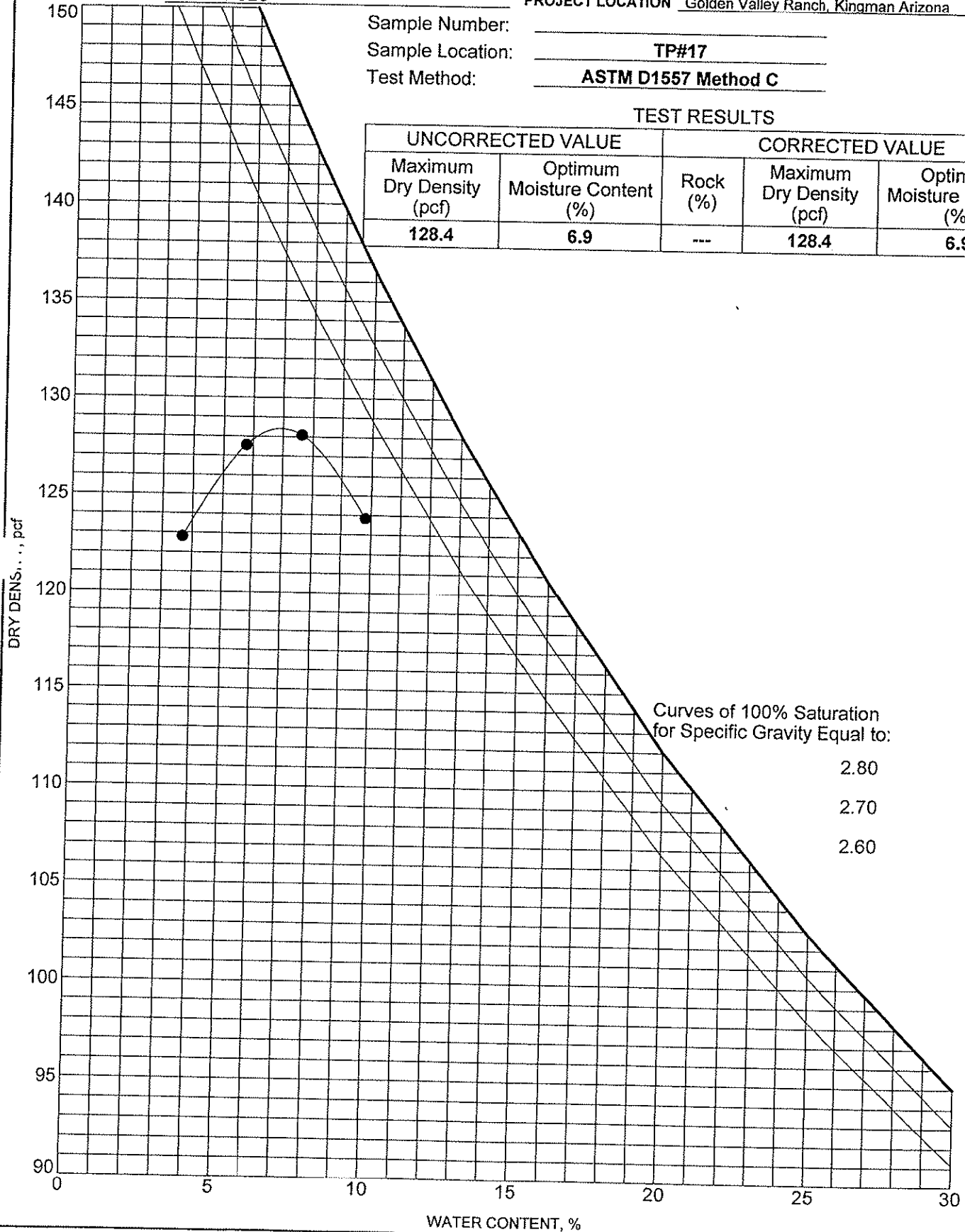
Test Method: \_\_\_\_\_

TP#17

ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		Rock (%)	CORRECTED VALUE	
Maximum Dry Density (pcf)	Optimum Moisture Content (%)		Maximum Dry Density (pcf)	Optimum Moisture Content (%)
128.4	6.9	---	128.4	6.9



ST-RH036054





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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number:

Sample Location:

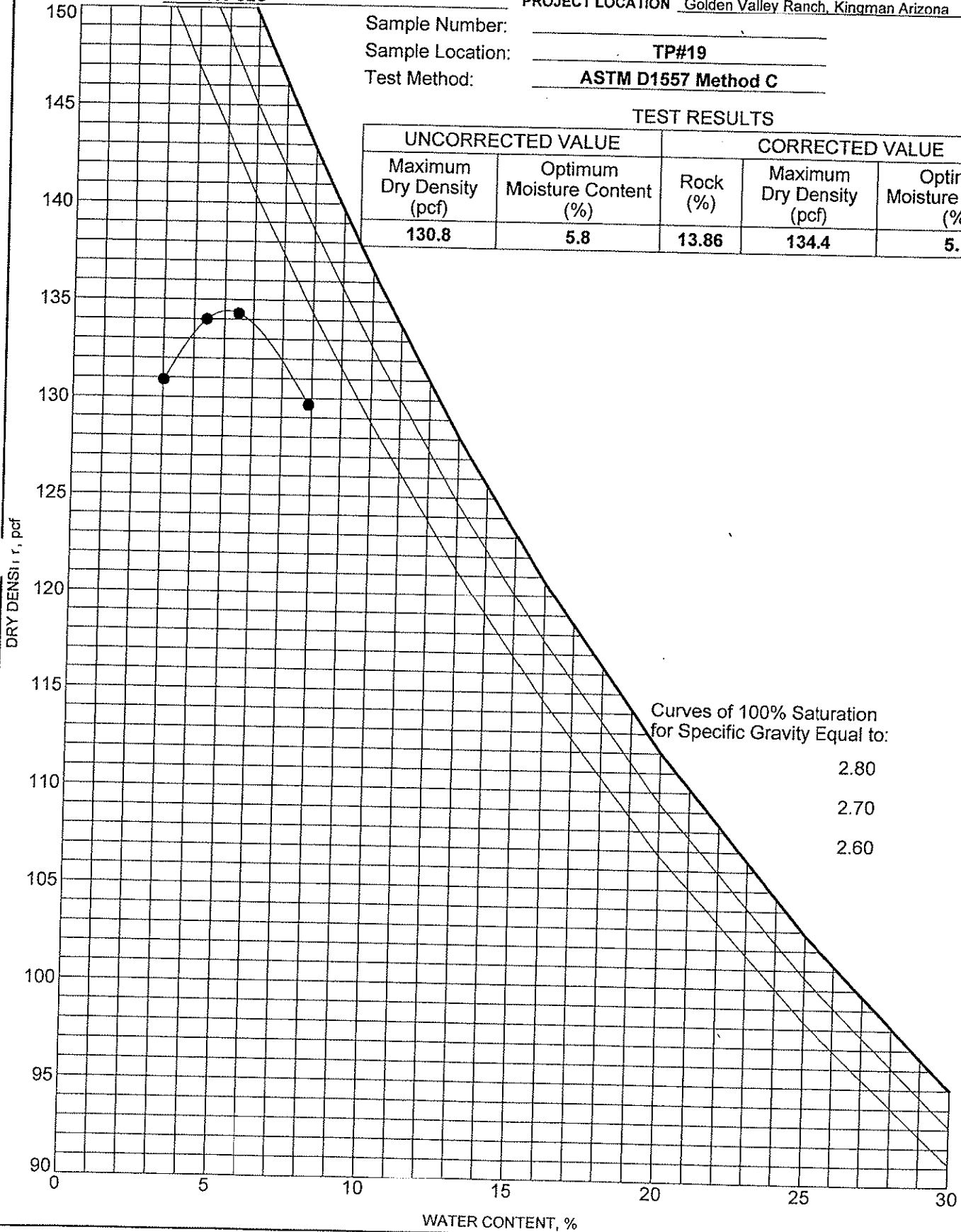
Test Method:

TP#19

ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
130.8	5.8	13.86	134.4	5.1



ROCK CORRECTION PN 1044-G.GPJ AMERICAN SOILS.GDT 9/15/05

COMPACTIO

ST-RH036055



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: \_\_\_\_\_

Sample Location: \_\_\_\_\_

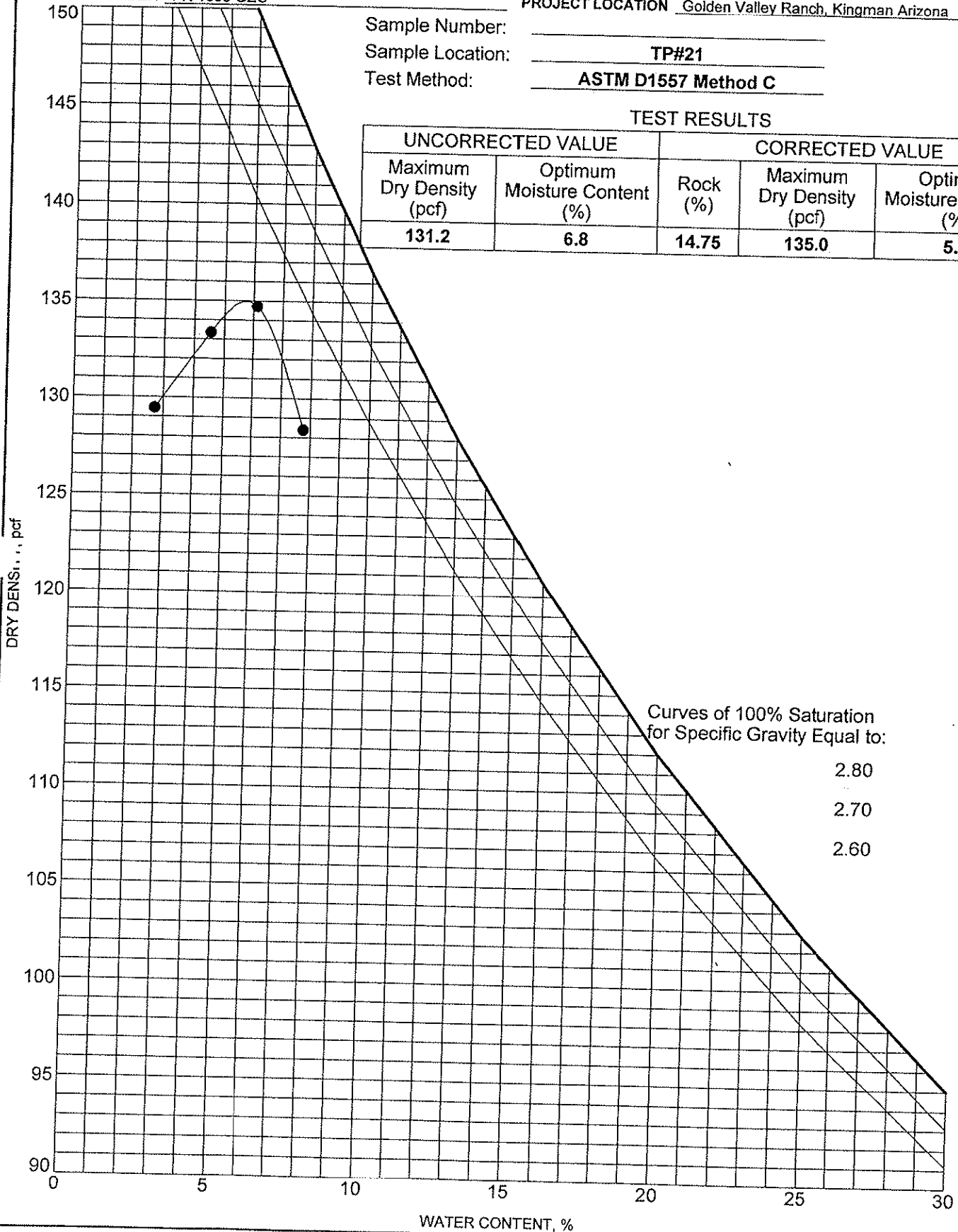
Test Method: \_\_\_\_\_

TP#21

ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
131.2	6.8	14.75	135.0	5.8



ST-RH036056



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: \_\_\_\_\_

Sample Location: \_\_\_\_\_

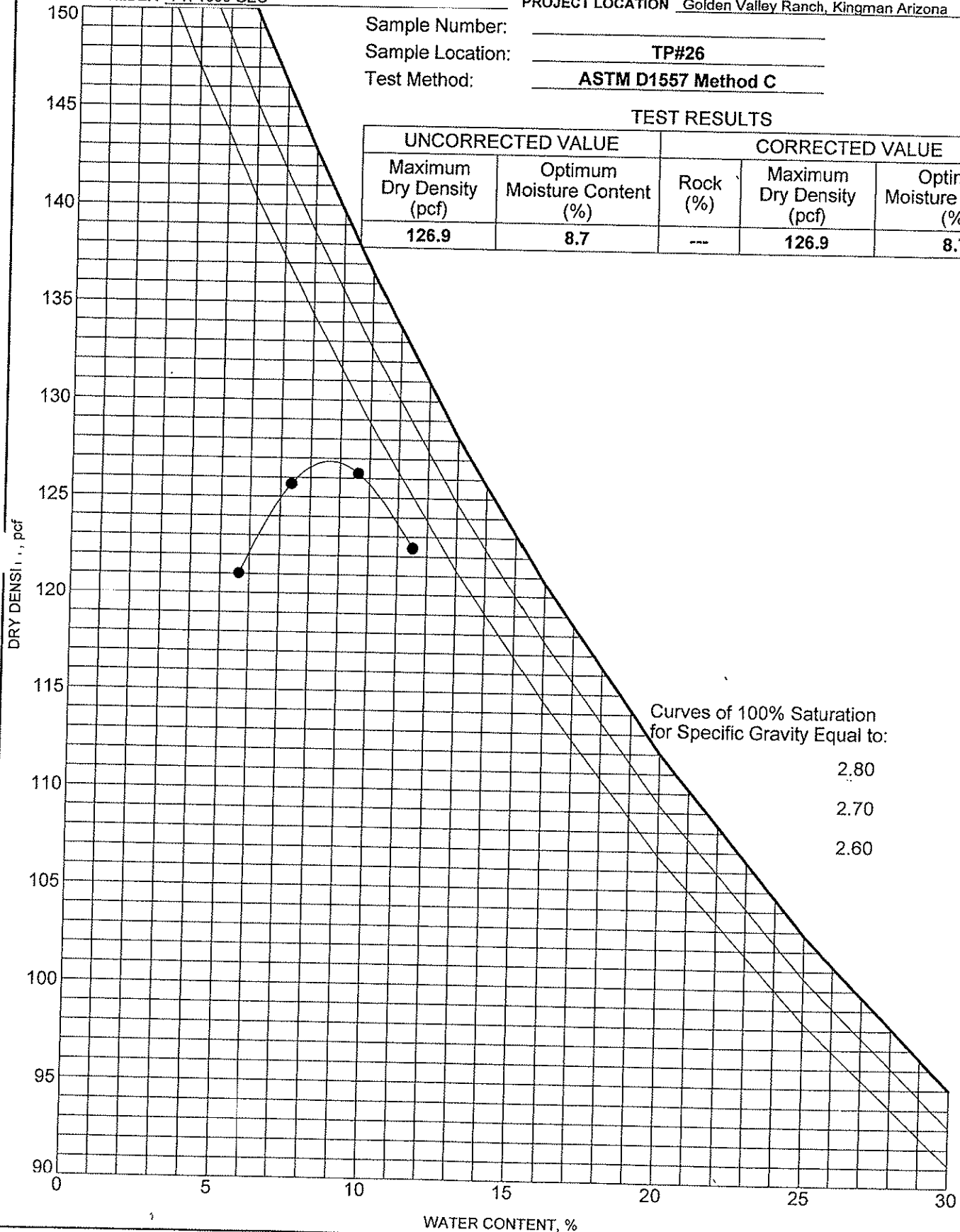
Test Method: \_\_\_\_\_

TP#26

ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
126.9	8.7	---	126.9	8.7



ST-RH036057





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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: \_\_\_\_\_

Sample Location: \_\_\_\_\_

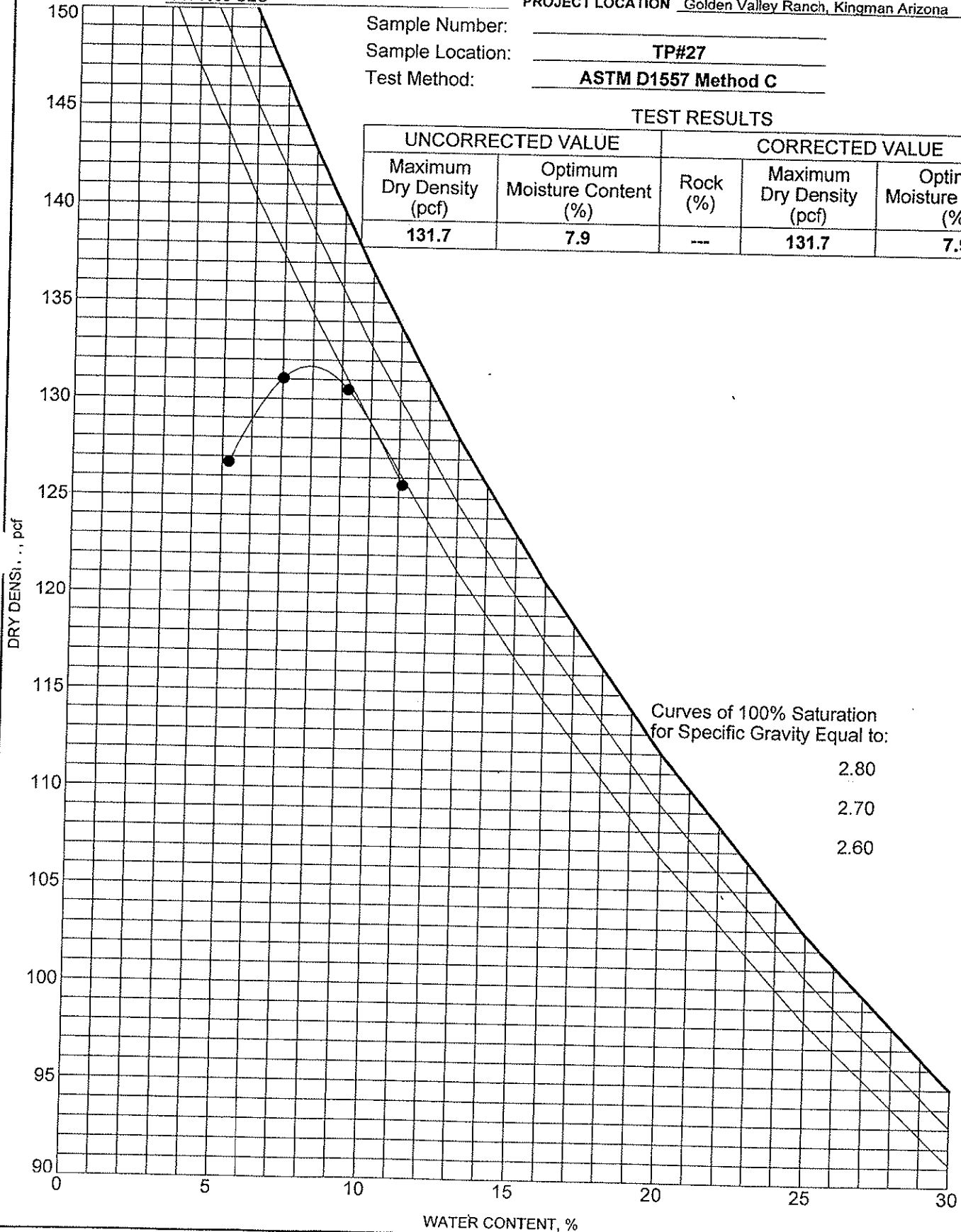
Test Method: \_\_\_\_\_

TP#27

ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
131.7	7.9	---	131.7	7.9



ST-RH036058



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: \_\_\_\_\_

Sample Location: \_\_\_\_\_

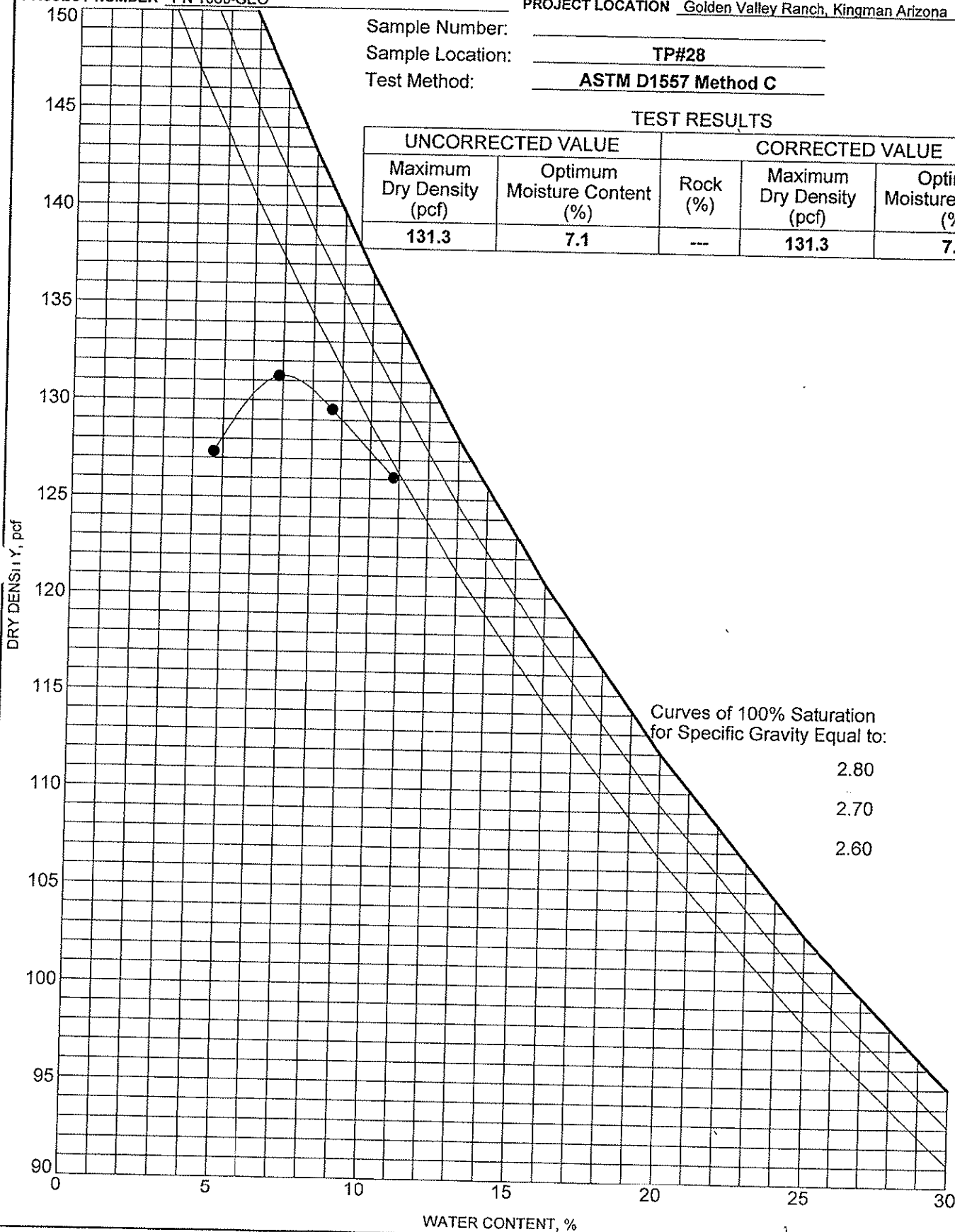
Test Method: \_\_\_\_\_

TP#28

ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
131.3	7.1	---	131.3	7.1



1 ROCK CORRECTION PN 1044-G-OPJ AMERICAN SOILS, GDT 9/15/05

COMPACT

ST-RH036059



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

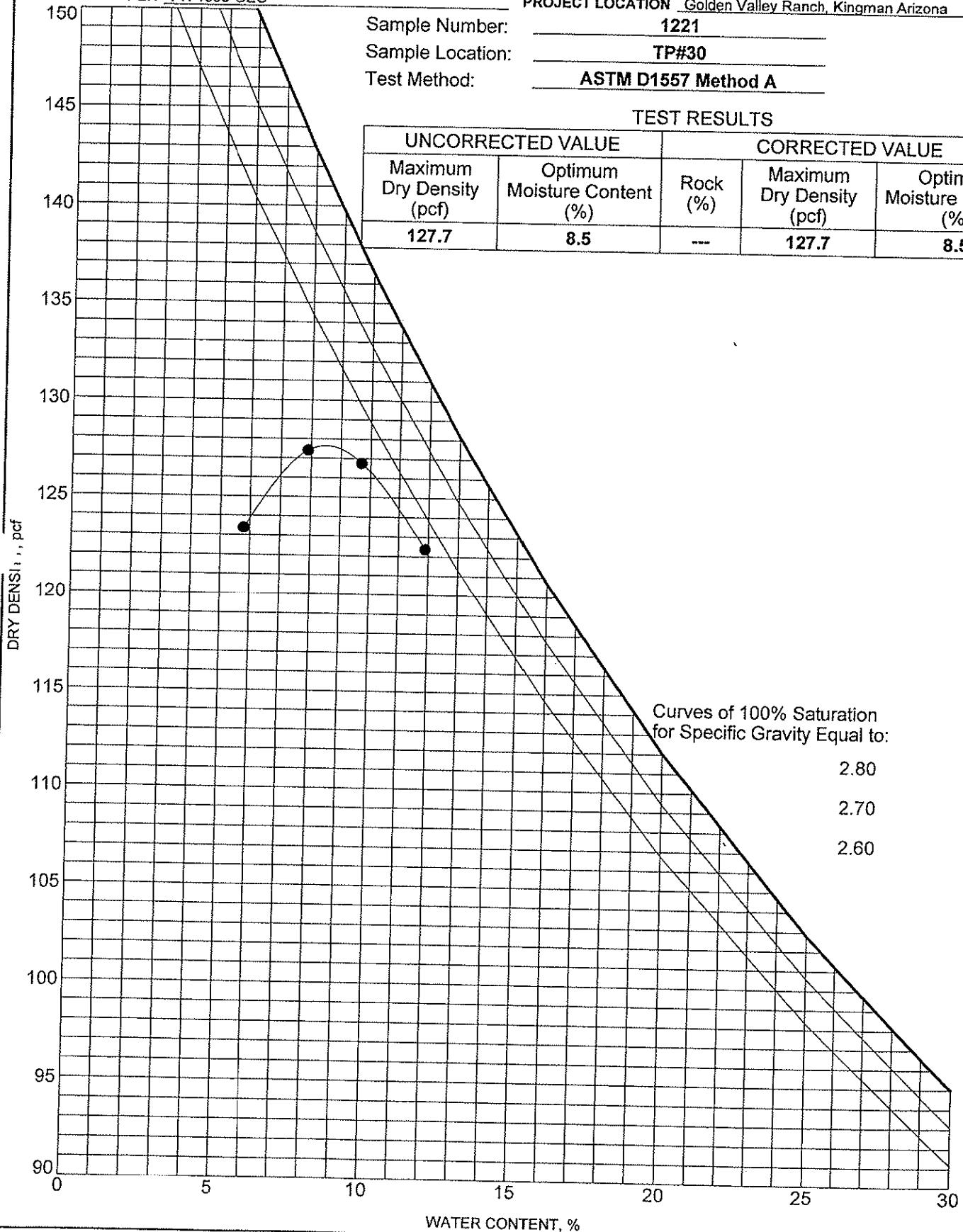
PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: 1221  
Sample Location: TP#30  
Test Method: ASTM D1557 Method A

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
127.7	8.5	---	127.7	8.5



ST-RH036060



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# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

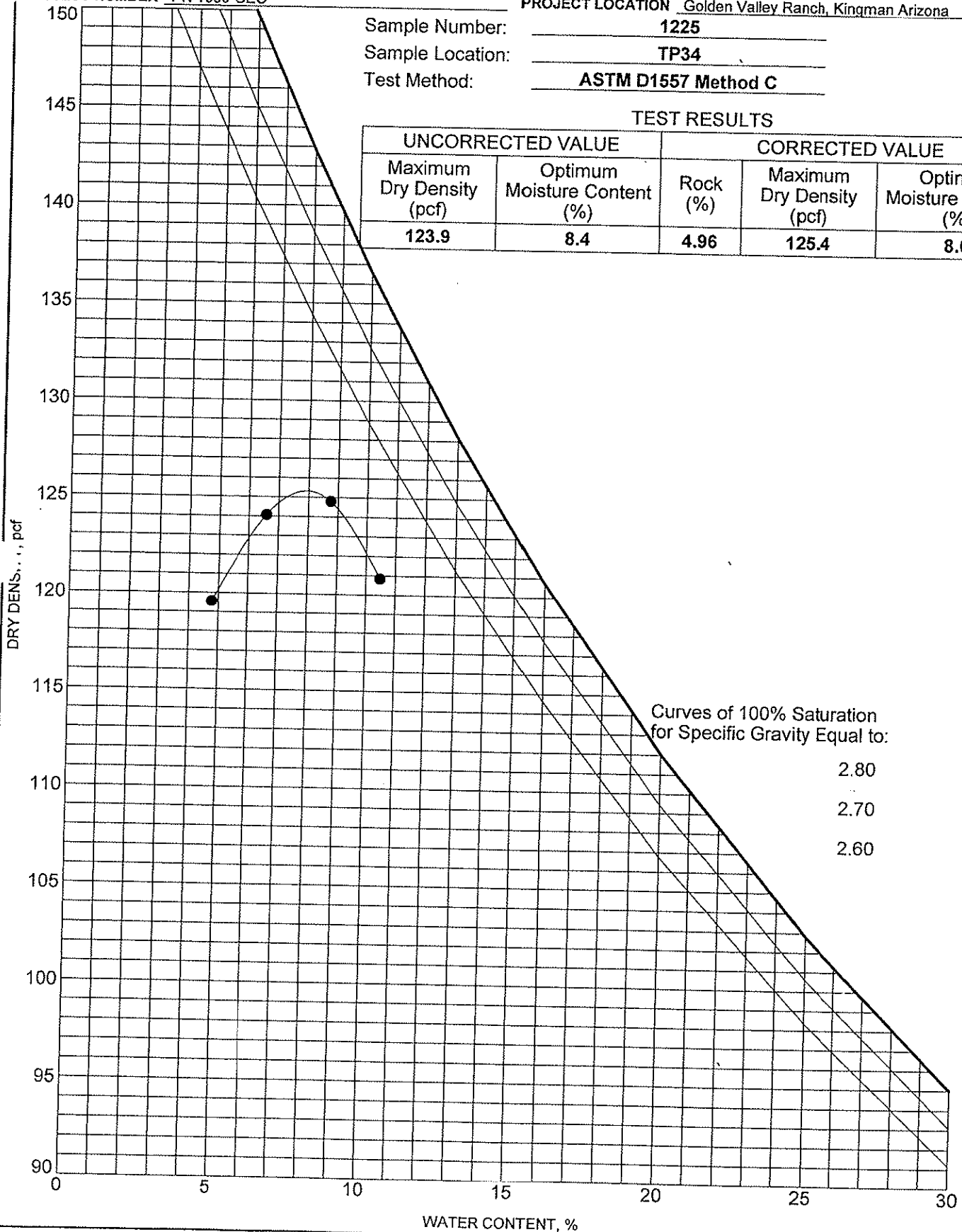
PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

Sample Number: 1225  
Sample Location: TP34  
Test Method: ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
123.9	8.4	4.96	125.4	8.0



ST-RH036061



American Soils Engineering, LLC  
6000 S. Eastern Avenue, Suite 12E  
Las Vegas, NV 89119  
Telephone: (702) 889-9617  
Fax: (702) 88-9614

# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

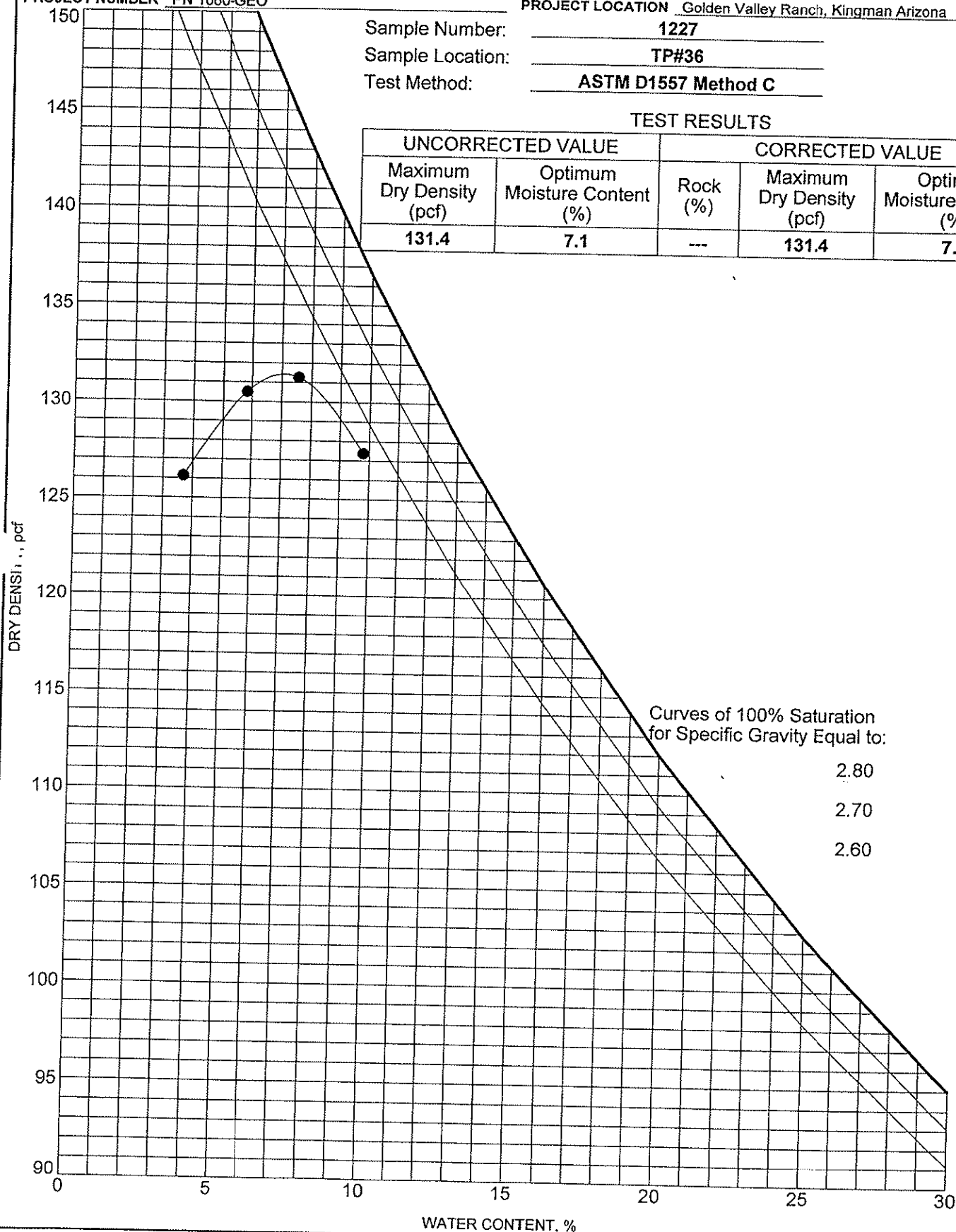
Sample Number: 1227

Sample Location: TP#36

Test Method: ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
131.4	7.1	---	131.4	7.1



ST-RH036062





American Soils Engineering, LLC  
6000 S. Eastern Avenue, Suite 12E  
Las Vegas, NV 89119  
Telephone: (702) 889-9617  
Fax: (702) 88-9614

# MOISTURE-DENSITY RELATIONSHIP

CLIENT Rhodes Homes of Arizona

PROJECT NAME Phase I at Golden Valley Ranch

PROJECT NUMBER PN 1060-GEO

PROJECT LOCATION Golden Valley Ranch, Kingman Arizona

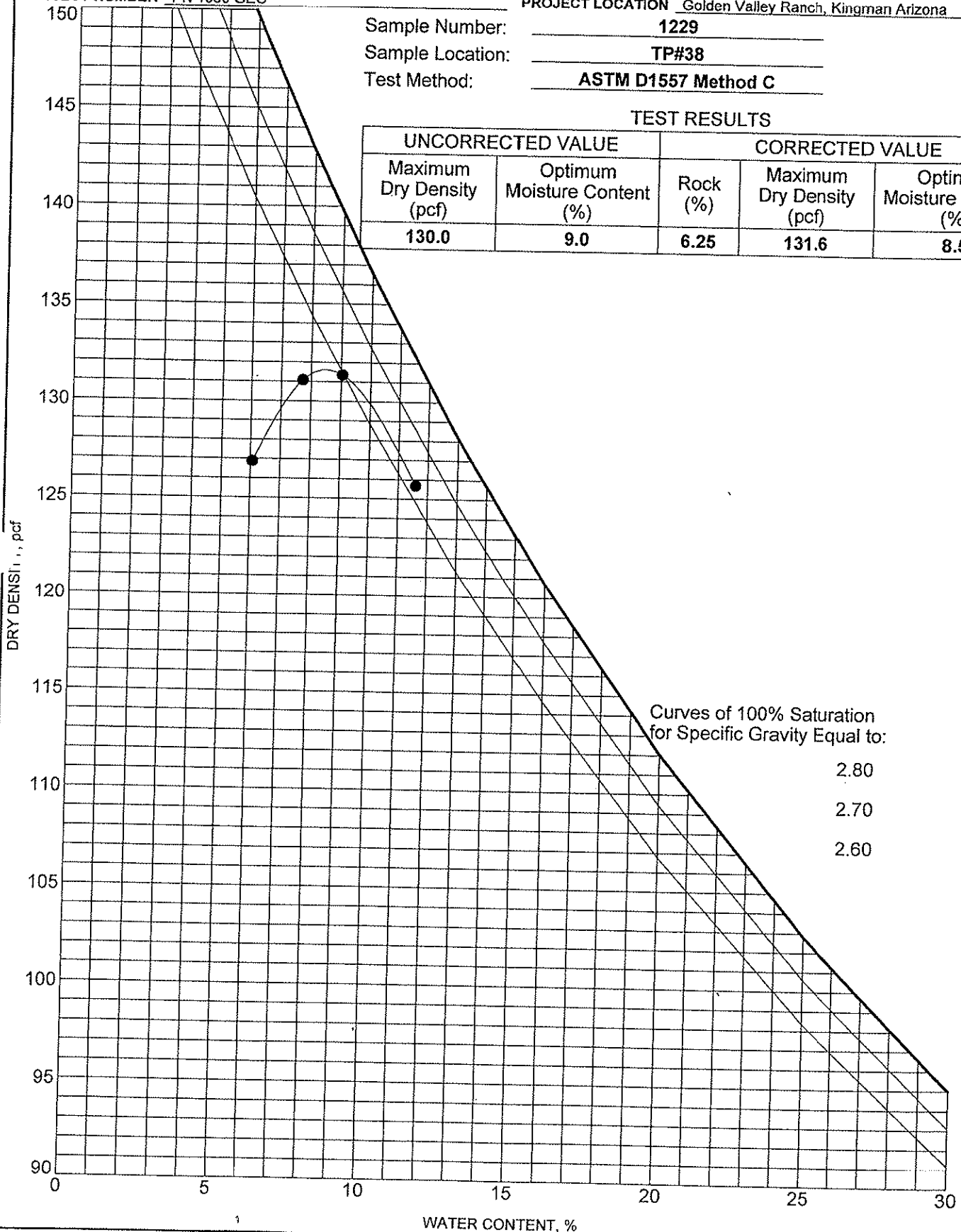
Sample Number: 1229

Sample Location: TP#38

Test Method: ASTM D1557 Method C

## TEST RESULTS

UNCORRECTED VALUE		CORRECTED VALUE		
Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Rock (%)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
130.0	9.0	6.25	131.6	8.5



COMPACTION: ROCK CORRECTION PN 1044-G.G.P./ AMERICAN SOILS GDT 9/15/05

ST-RH036063



## Las Vegas Laboratory

Kleinfelder  
6380 South Polaris Avenue  
Las Vegas, NV 89118

Telephone: (702) 736 2936  
Facsimile: (702) 361 9094

## R Value Test Report

Report No: RV:LVS05/00462

Issue No: 1

**Client:** American Soils Engineering  
6000 S. Eastern Ave. Ste 12E  
Las Vegas NV 89119  
USA

**Project:** Misc Lab Testing



All reports are submitted as the confidential property of our clients and authorization for publication of statements, conclusions or extracts from or regarding our reports are reserved pending our written approval

*Michael Olson*

Member ACIL;  
QESTLab No. 1078

By: Mike Olson (Materials Department Manager)  
Date of Issue: 9/9/05

### Sample Details

**Sample ID:** LVS05/00462  
**Field Sample:** 28320  
**Date Sampled:** 8/31/05  
**Source:**  
**Material:**  
**Specification:**  
**Location:** TP1@2', TP4@2', TP10@5'  
**Sampled From:**

### Test Results

Description	Result	Limits
R Value @ 300 psi Exudation	63	

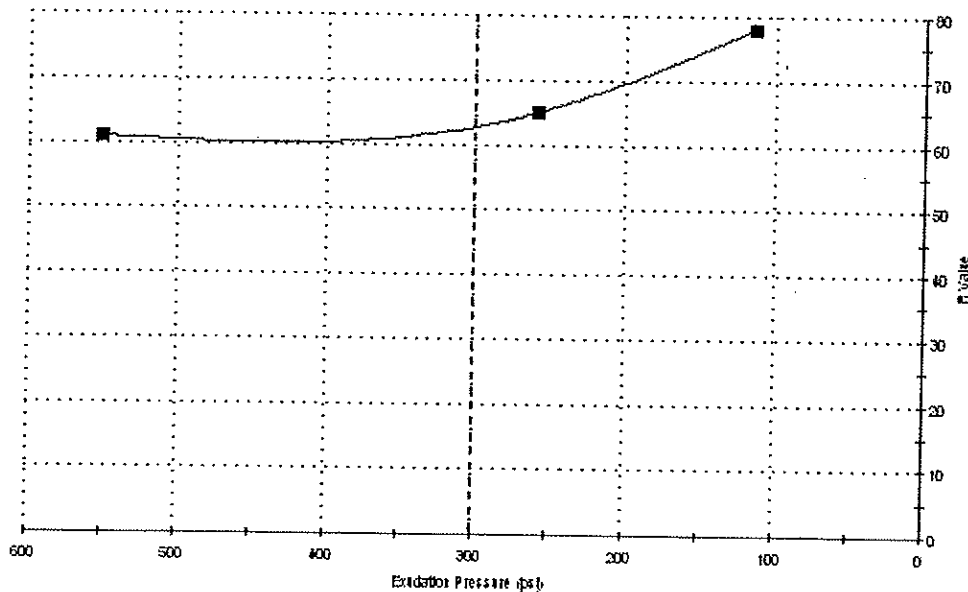
### Soil Classification

**Symbol**  
**Name**

### R Value

**Method:** ASTM D 2844  
**Description:** Standard Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils

### Chart



### Comments

N/A




**KLEINFELDER**
*An employee owned company*
**Las Vegas Laboratory**

 Kleinfelder  
 6380 South Polaris Avenue  
 Las Vegas, NV 89118

 Telephone: (702) 736 2936  
 Facsimile: (702) 361 9094

**Report No: RV:LVS05/00462**
**Issue No: 1**

## R Value Test Report

**Client:** American Soils Engineering  
 6000 S. Eastern Ave. Ste 12E  
 Las Vegas NV 89119  
 USA

**Project:** Misc Lab Testing



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*Michael Olson*

Member ACIL:  
 QESTLab No. 1078

By: Mike Olson (Materials Department Manager)  
 Date of Issue: 9/9/05

### Sample Details

**Sample ID:** LVS05/00462

**Field Sample:** 28320

**Date Sampled:** 8/31/05

**Source:**

**Material:**

**Specification:**

**Location:** TP1@2', TP4@2', TP10@5'

**Sampled From:**

### R Value

**Method:** ASTM D 2844

**Description:** Standard Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils

### Test Results

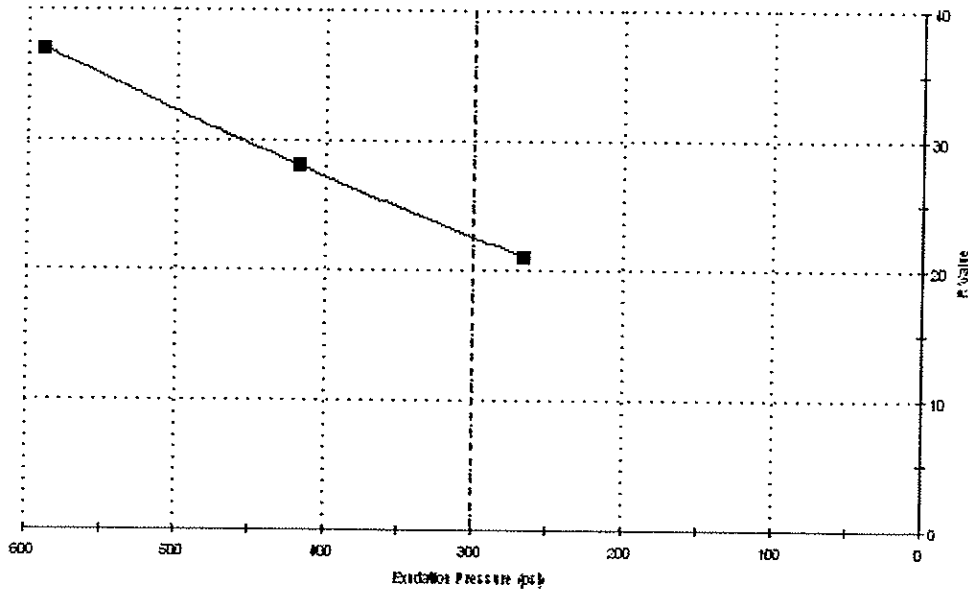
Description	Result	Limits
R Value @ 300 psi Exudation	23	

### Soil Classification

Symbol

Name

### Chart



### Comments

N/A



Las Vegas Laboratory  
Kleinfelder  
6380 South Polaris Avenue  
Las Vegas, NV 89118

Telephone: (702) 736 2936  
Facsimile: (702) 361 9094

## R Value Test Report

Report No: RV:LVS05/00462

Issue No: 1

**Client:** American Soils Engineering  
6000 S. Eastern Ave. Ste 12E  
Las Vegas NV 89119  
USA

**Project:** Misc Lab Testing



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*Michael Olson*

Member ACIL:  
QUESTLab No. 1078

By: Mike Olson (Materials Department Manager)  
Date of Issue: 9/9/05

### Sample Details

**Sample ID:** LVS05/00462

**Field Sample:** 28320

**Date Sampled:** 8/31/05

**Source:**

**Material:**

**Specification:**

**Location:** TP1@2', TP4@2', TP10@5'

**Sampled From:**

### R Value

**Method:** ASTM D 2844

**Description:** Standard Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils

### Test Results

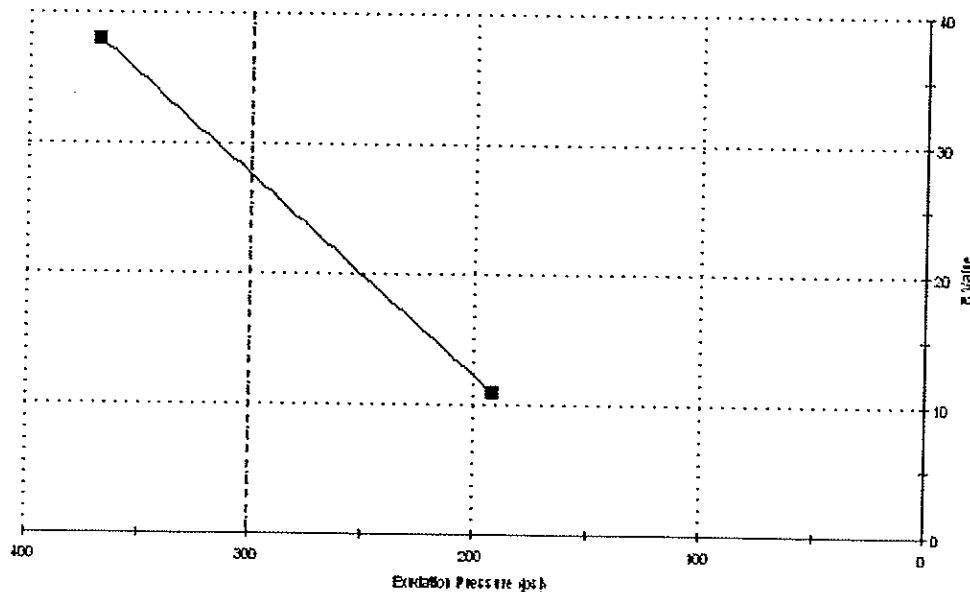
Description	Result	Limits
R Value @ 300 psi Exudation	27	

### Soil Classification

**Symbol**

**Name**

### Chart



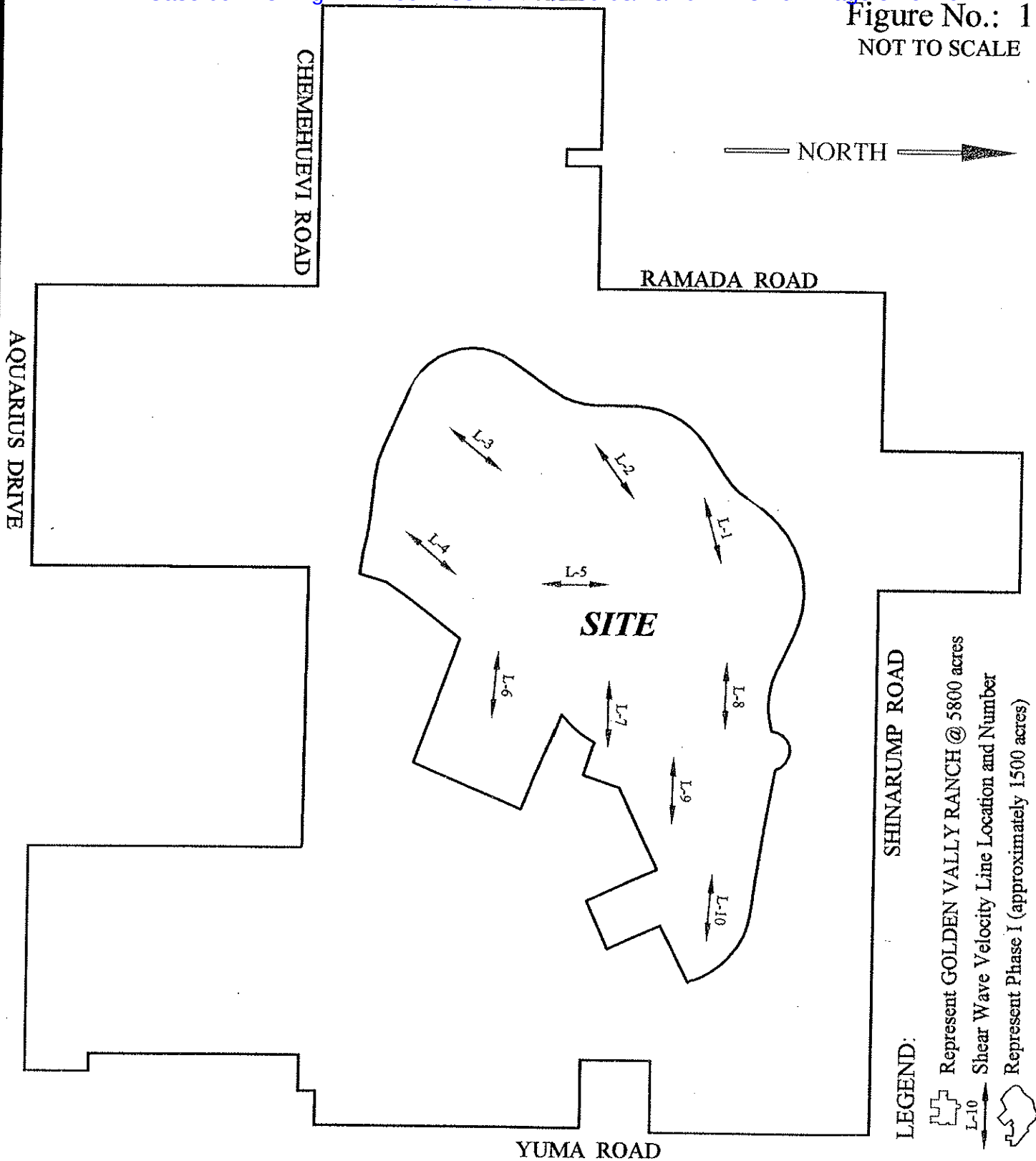
### Comments

N/A

# APPENDIX C

Figure No.: 1

NOT TO SCALE



## American Soils Engineering, LLC



6000 S. Eastern Avenue, Suite 12E  
 Las Vegas, Nevada 89119  
 Phone: (702) 889-9617  
 Fax: (702) 889-9614

Geotechnical Engineering • Special Inspection • Materials Testing Services

## Shear Wave Velocity Test Location Map

Project: Phase I of Golden Valley Ranch  
 Kingman - Arizona

Prepared for:  
 Rhodes Homes of Arizona

Project Number:

PN 1060-GEO

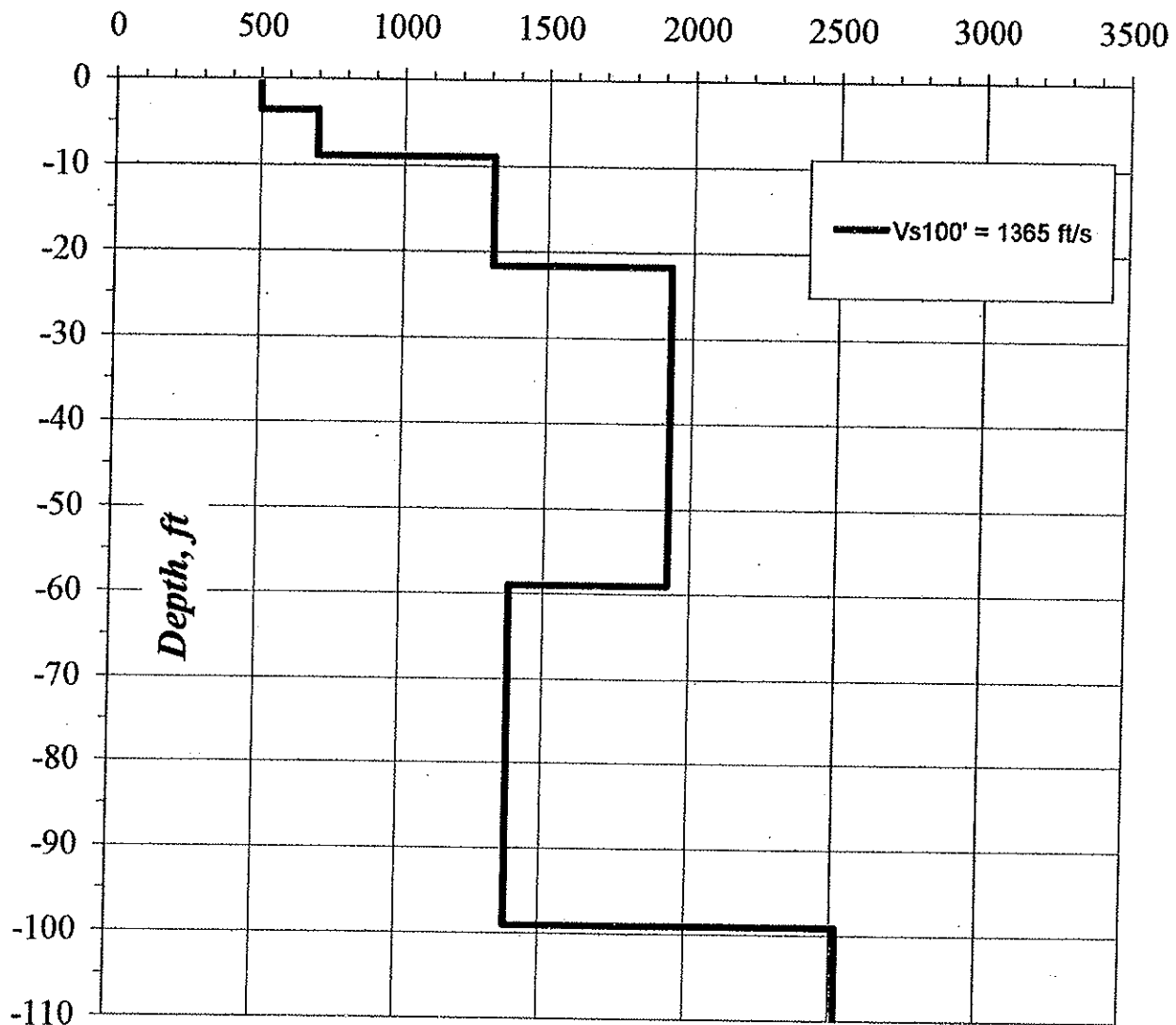
Date:

09-09-2005

Drawn By:

QB

ST-RH036068

***PN 1060.1: Vs Model******Shear-Wave Velocity, ft/s*****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

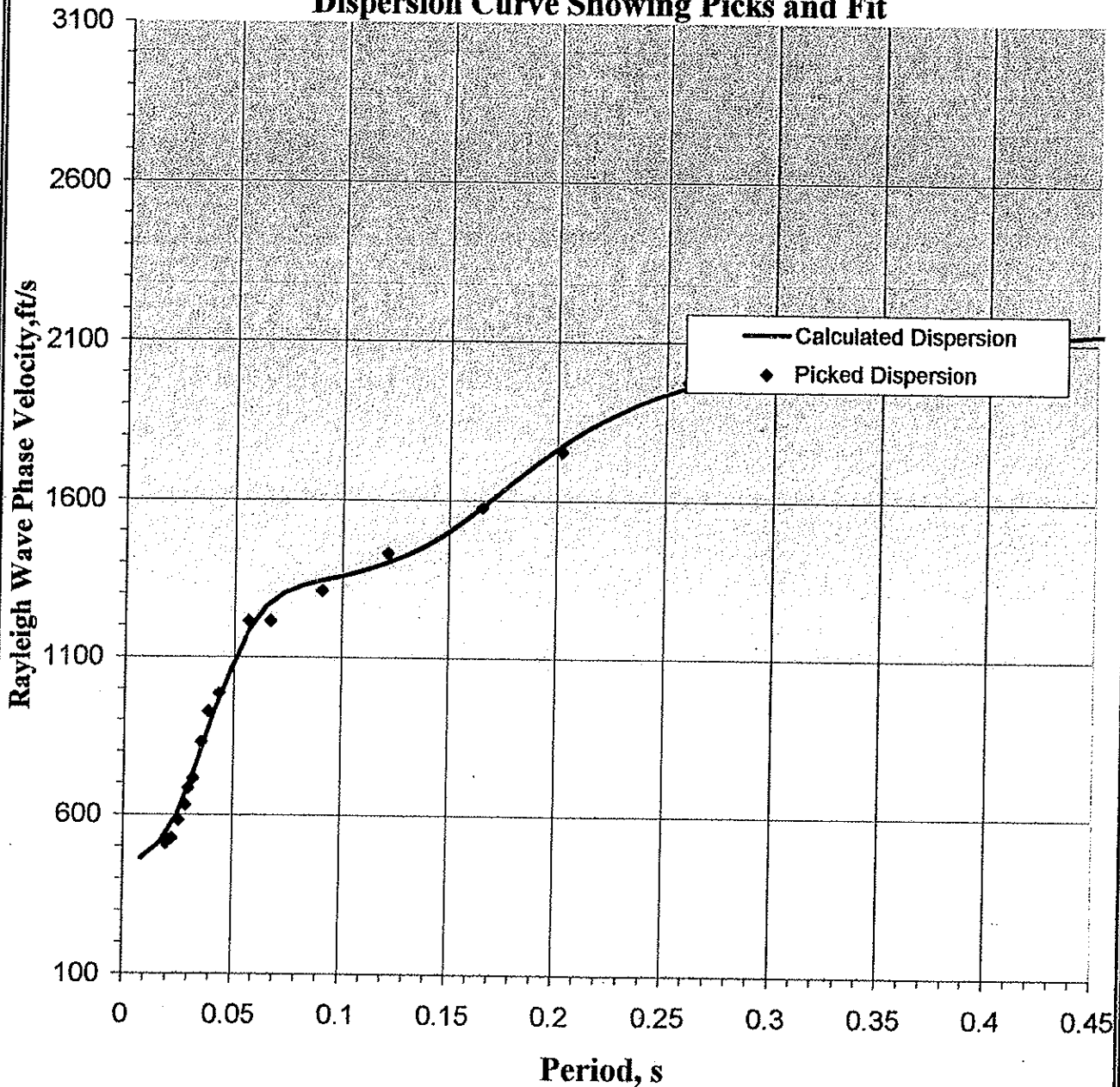
PN: 1060-GEO

**Date:**

09-09-05

**Prepared For:**

RHODES HOMES

**PN 1060.1: Supportive Illustration****Dispersion Curve Showing Picks and Fit****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

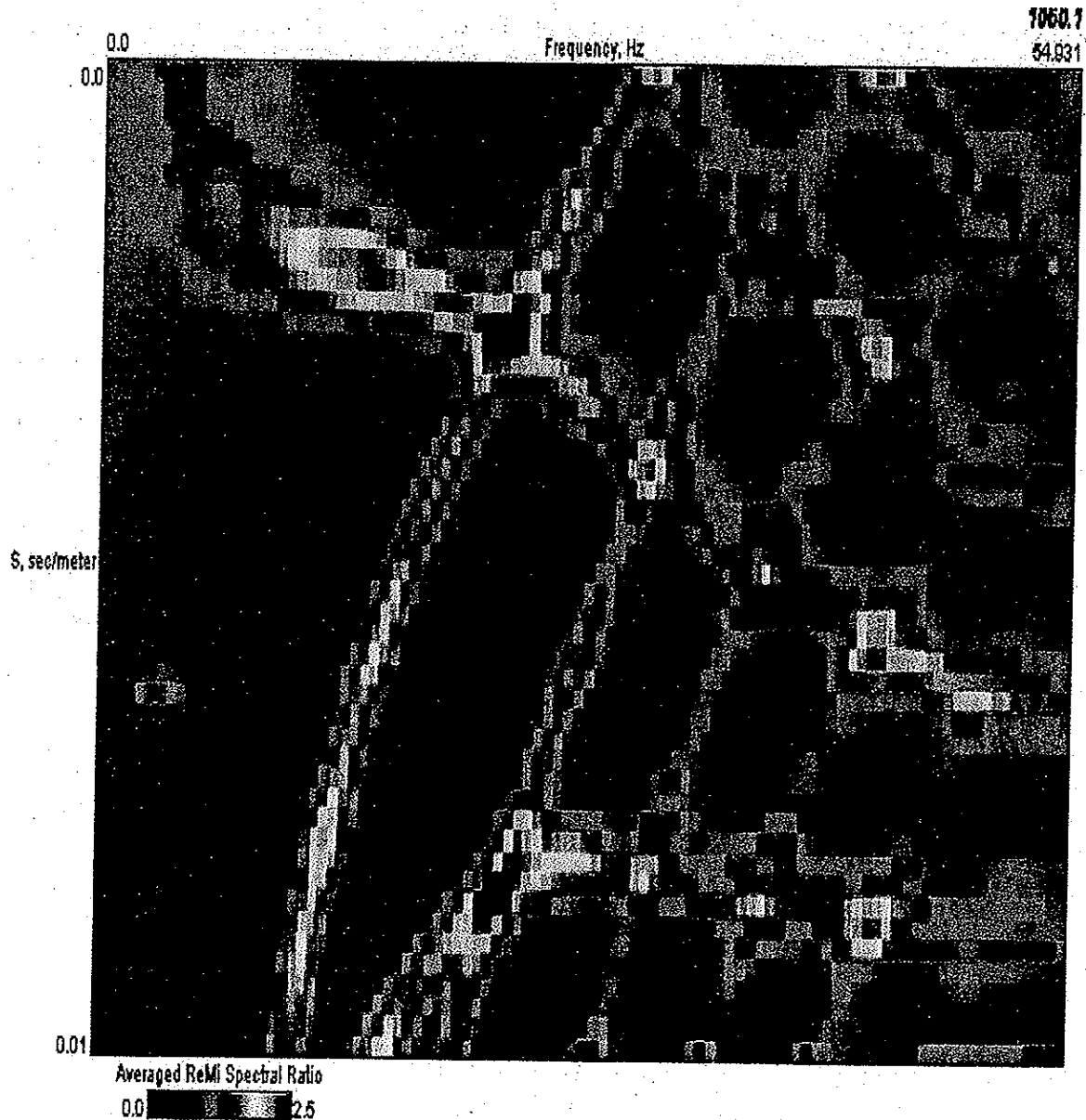
PN: 1060-GEO

**Date:**

09-09-05

**Prepared For:**

RHODES HOMES

**p-f Image with Dispersion Modeling Picks****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

PN: 1060-GEO

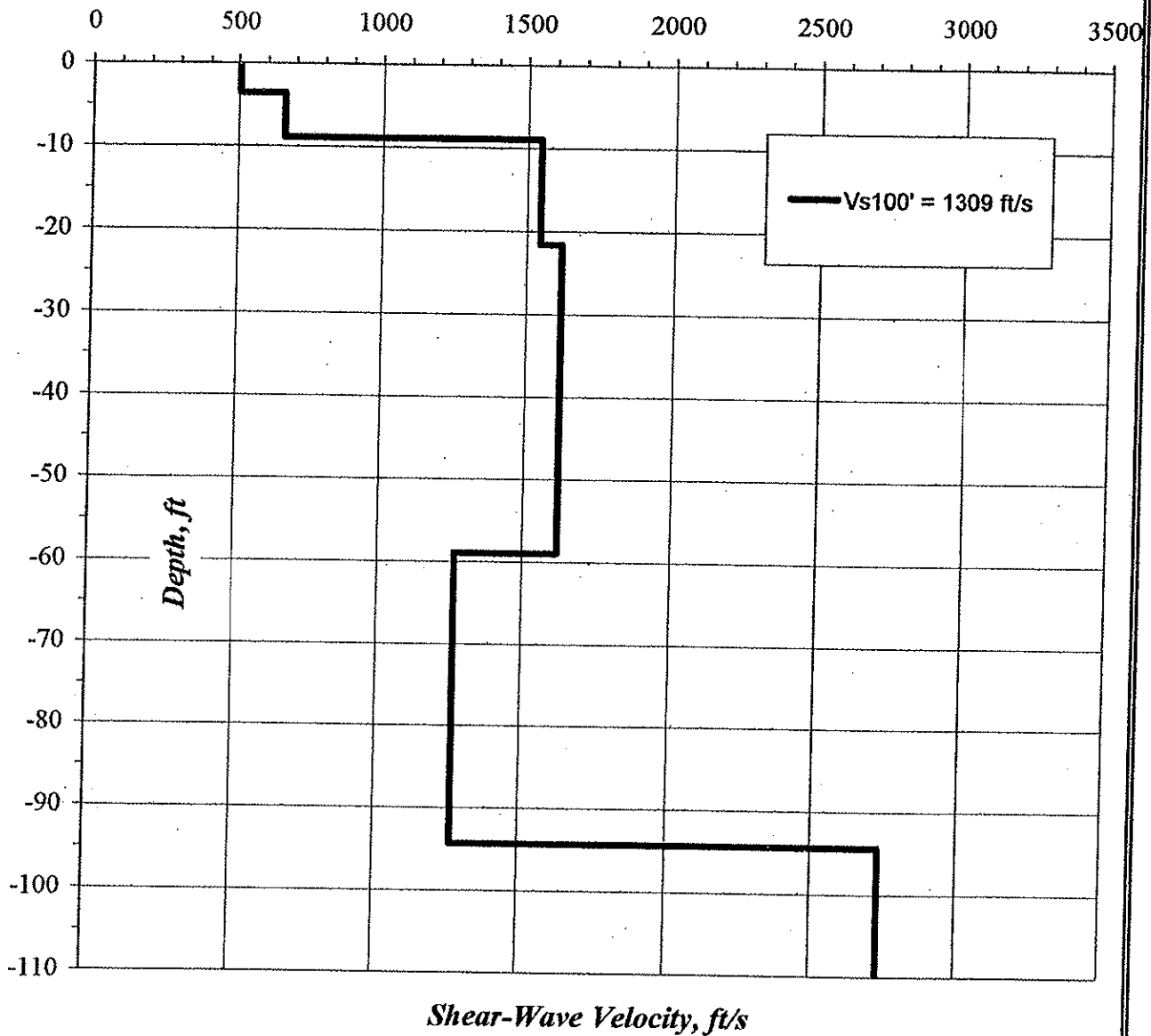
**Date:**

09-09-05

**Prepared For:**

RHODES HOMES



***PN 1060.2: Vs Model*****Prepared By:**

American Soils Engineering, LLC 6000  
 South Eastern Ave., Suite 12E  
 Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
 Mojave County, AZ

**Project No:**

PN: 1060-GEO

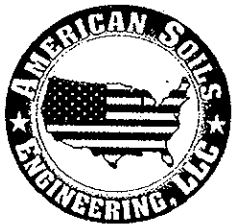
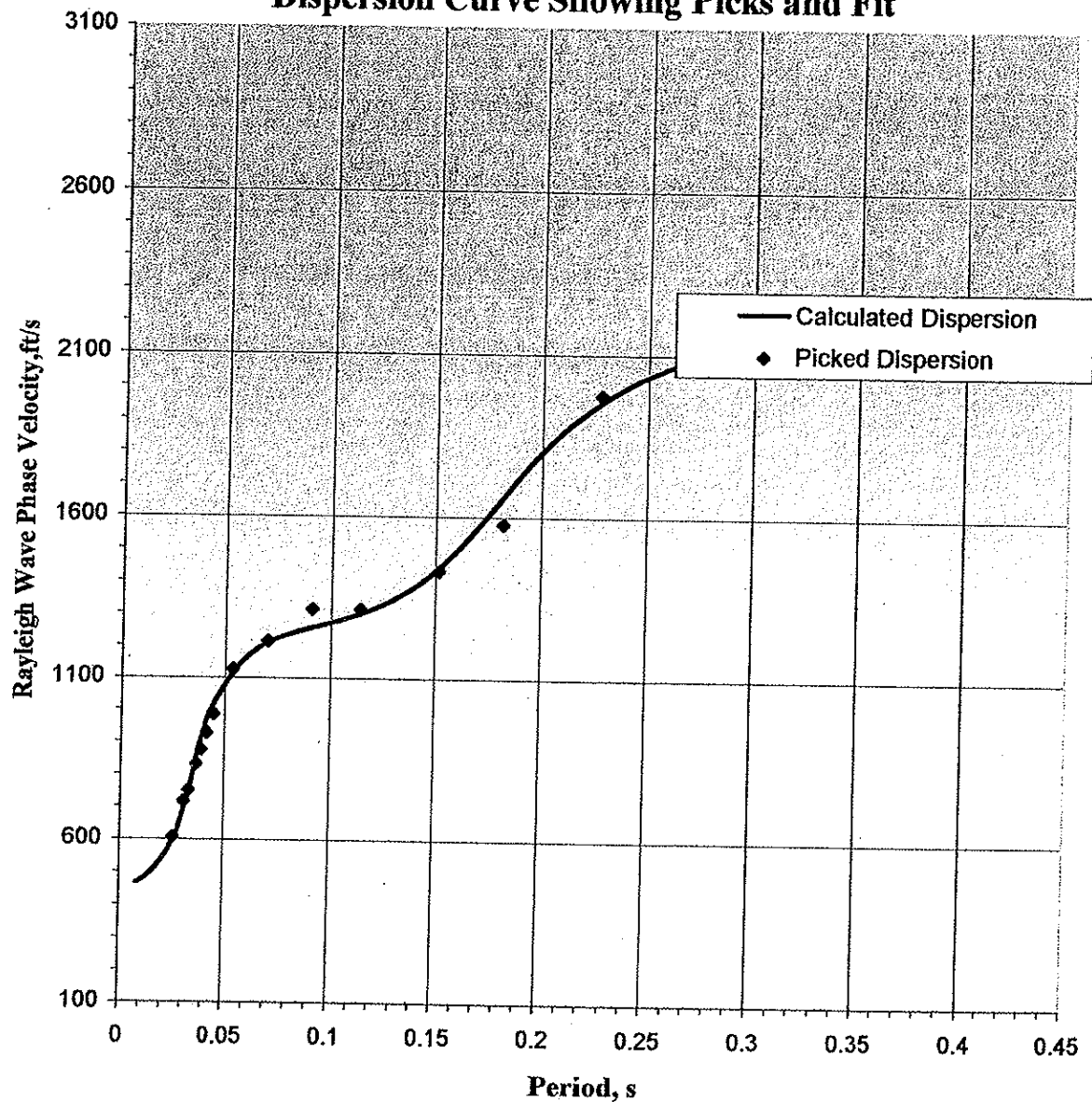
**Date:**

09-09-05

**Prepared For:**

RHODES HOMES

**PN 1060.2: Supportive Illustration**  
**Dispersion Curve Showing Picks and Fit**

**Prepared By:**

American Soils Engineering, LLC 6000  
 South Eastern Ave., Suite 12E  
 Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
 Mojave County, AZ

**Project No:**

PN: 1060-GEO

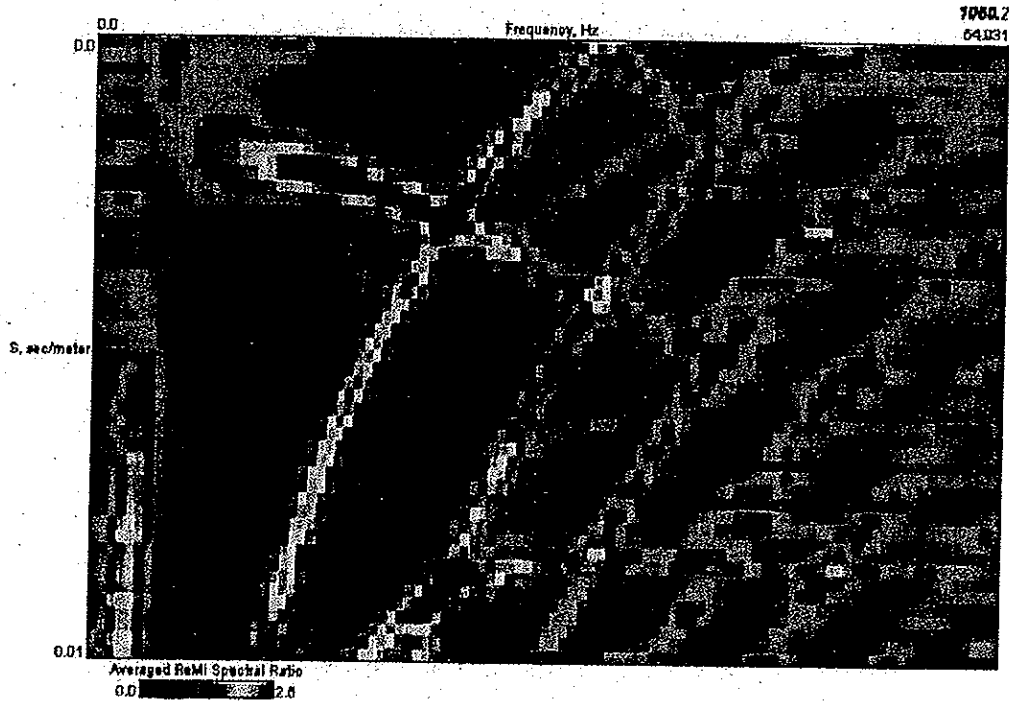
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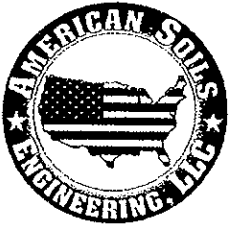
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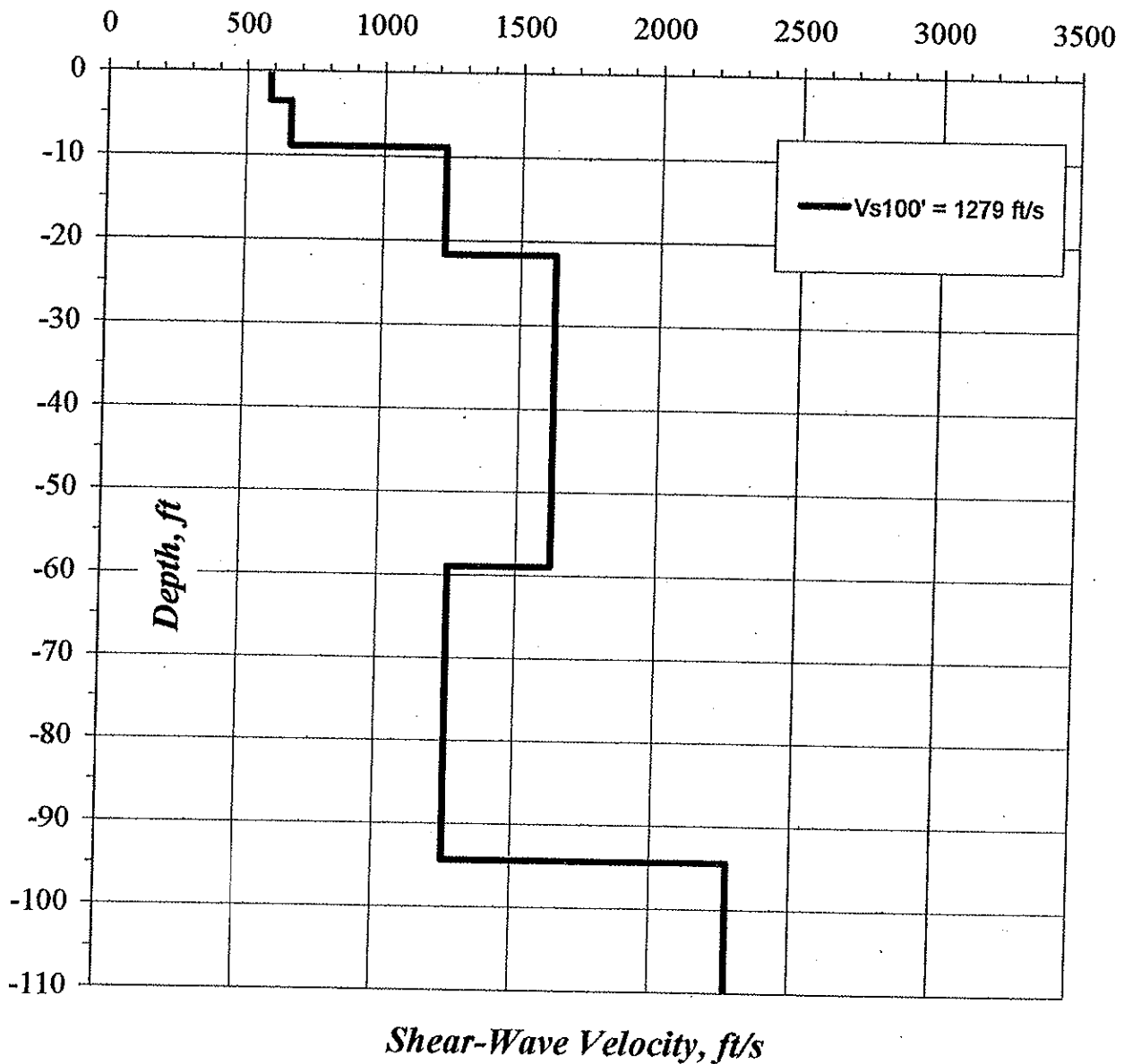
**Prepared For:**

RHODES HOMES

### p-f Image with Dispersion Modeling Picks



	<b>Prepared By:</b> American Soils Engineering, LLC 6000 South Eastern Ave., Suite 12E Las Vegas, NV 89119		<b>Project Name:</b>  Golden Valley Ranch Mojave County, AZ
	<b>Project No:</b>  PN: 1060-GEO	<b>Date:</b>  09-09-05	<b>Prepared For:</b>  RHODES HOMES

***PN 1060.3: Vs Model***

Prepared By:

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

Project Name:

Golden Valley Ranch  
Mojave County, AZ

Project No:

PN: 1060-GEO

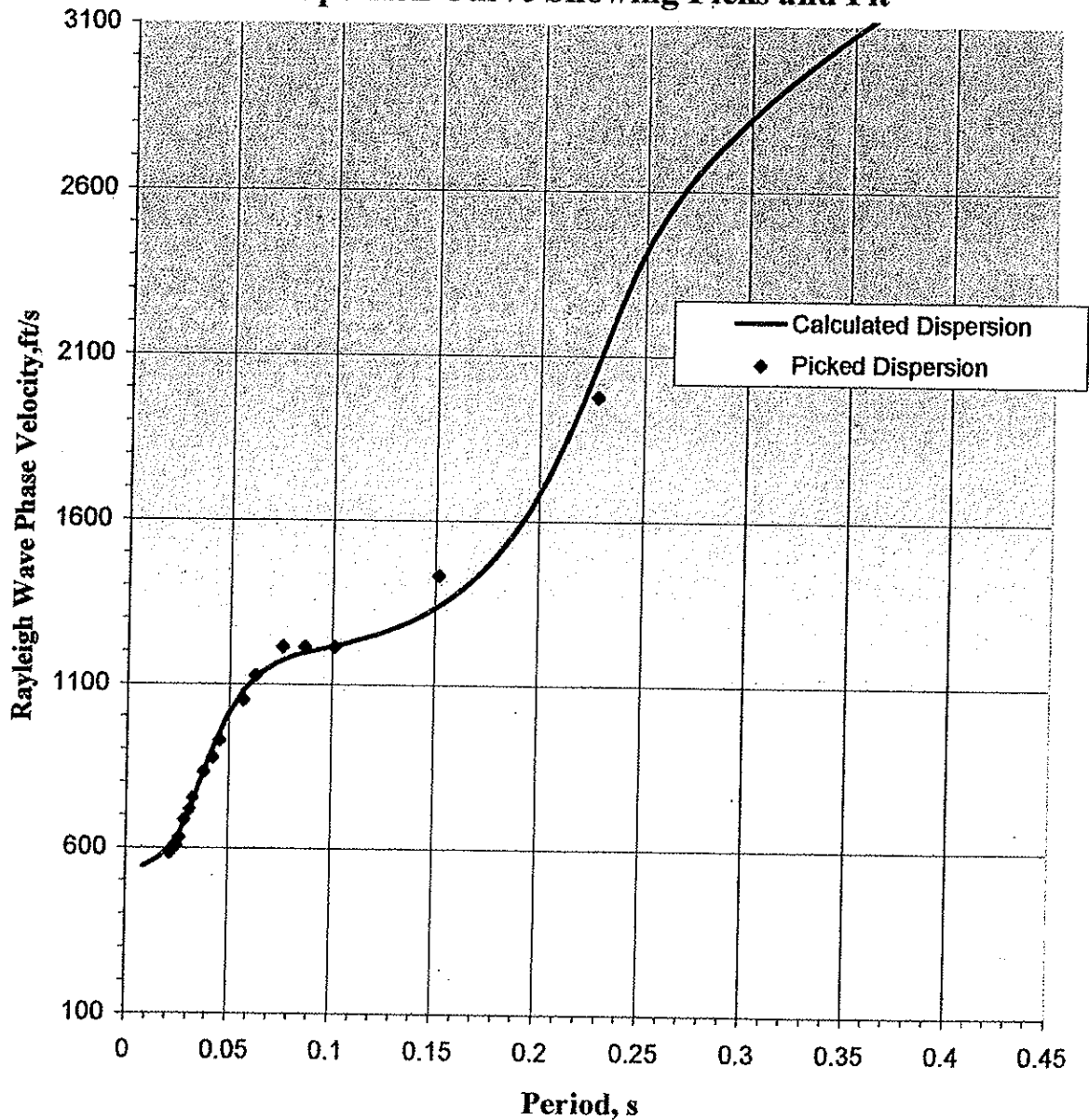
Date:

09-09-05

Prepared For:

RHODES HOMES

**PN 1060.3: Supportive Illustration**  
**Dispersion Curve Showing Picks and Fit**

**Prepared By:**

American Soils Engineering, LLC 6000  
 South Eastern Ave., Suite 12E  
 Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
 Mojave County, AZ

**Project No:**

PN: 1060-GEO

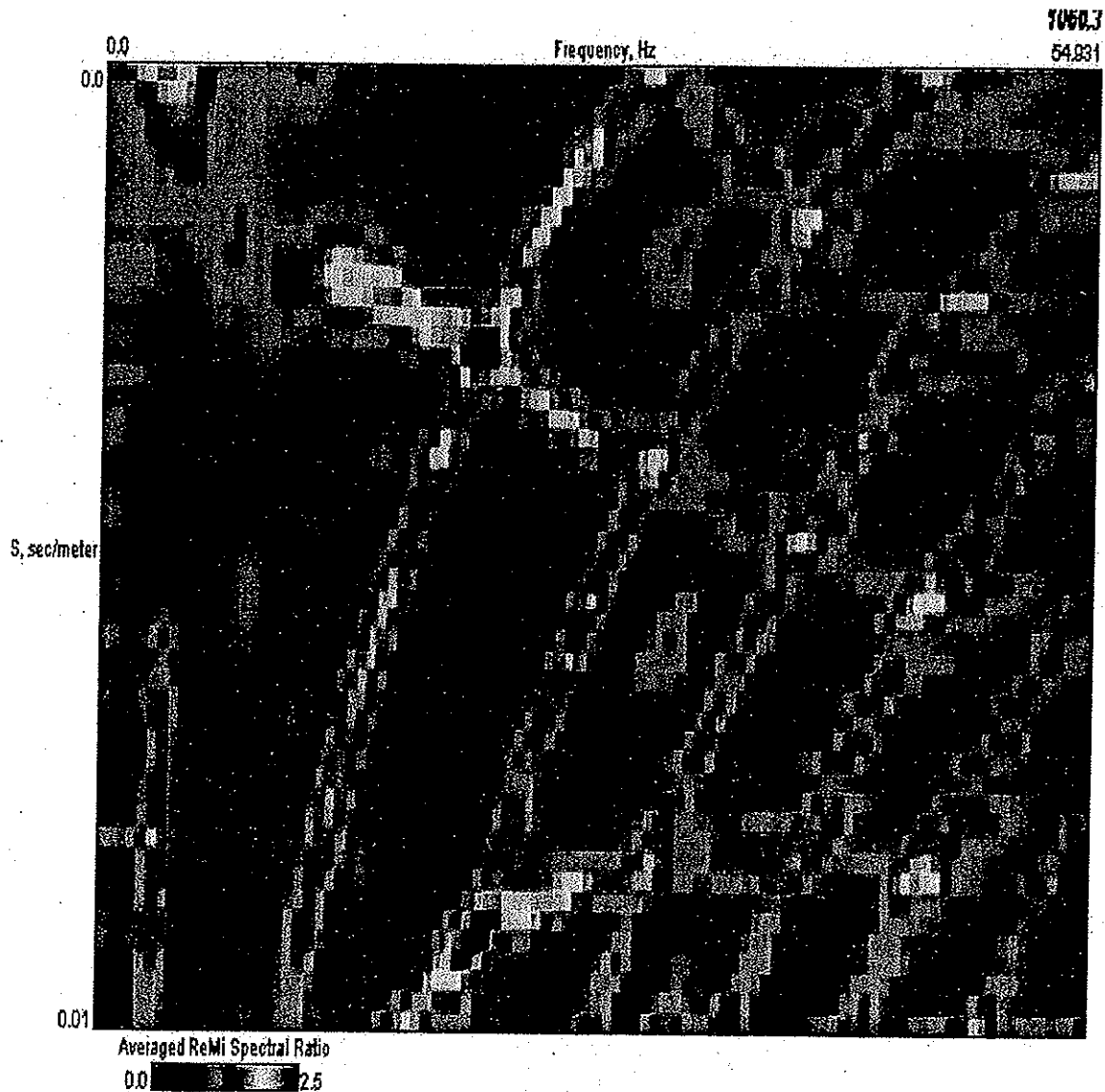
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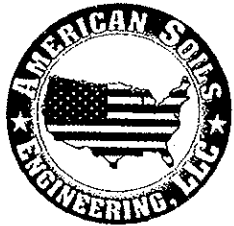
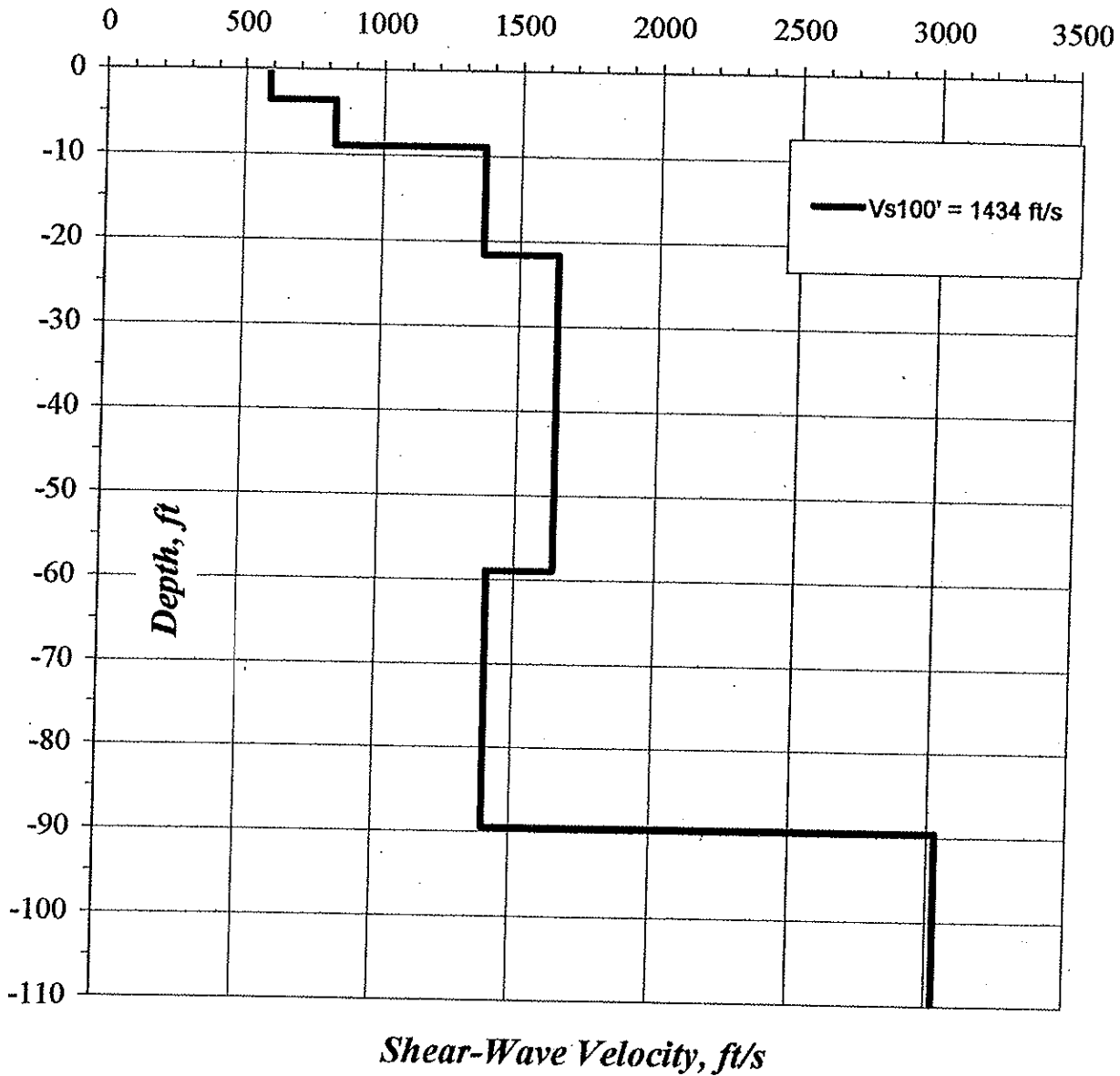
**Prepared For:**

RHODES HOMES



**p-f Image with Dispersion Modeling Picks**

	<b>Prepared By:</b> American Soils Engineering, LLC 6000 South Eastern Ave., Suite 12E Las Vegas, NV 89119		<b>Project Name:</b> Golden Valley Ranch Mojave County, AZ
	<b>Project No:</b> PN: 1060-GEO	<b>Date:</b> 09-09-05	<b>Prepared For:</b> RHODES HOMES

***PN 1060.4: Vs Model*****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

PN: 1060-GEO

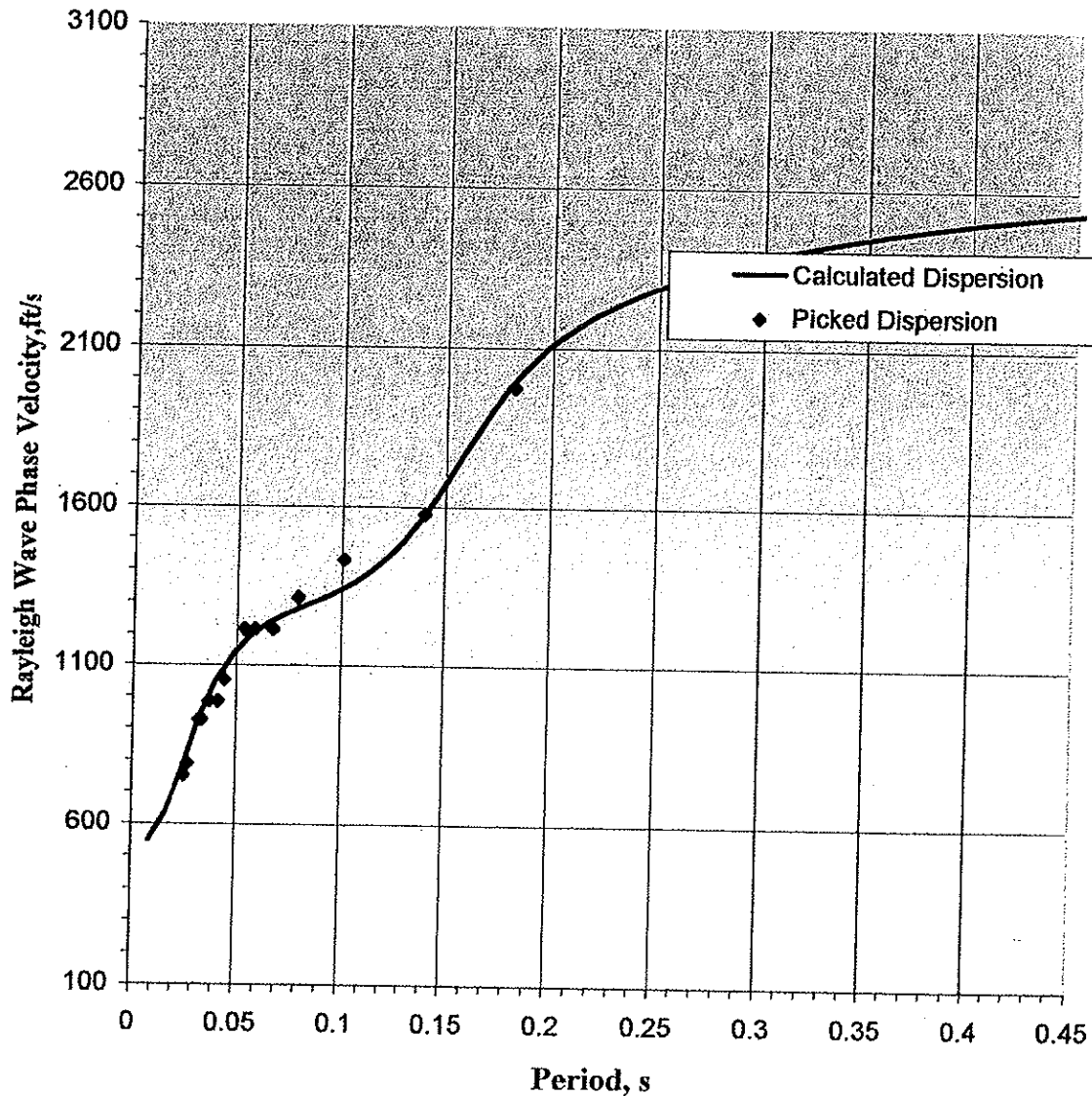
**Date:**

09-09-05

**Prepared For:**

RHODES HOMES



***PN 1060.4: Supportive Illustration*****Dispersion Curve Showing Picks and Fit****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

PN: 1060-GEO

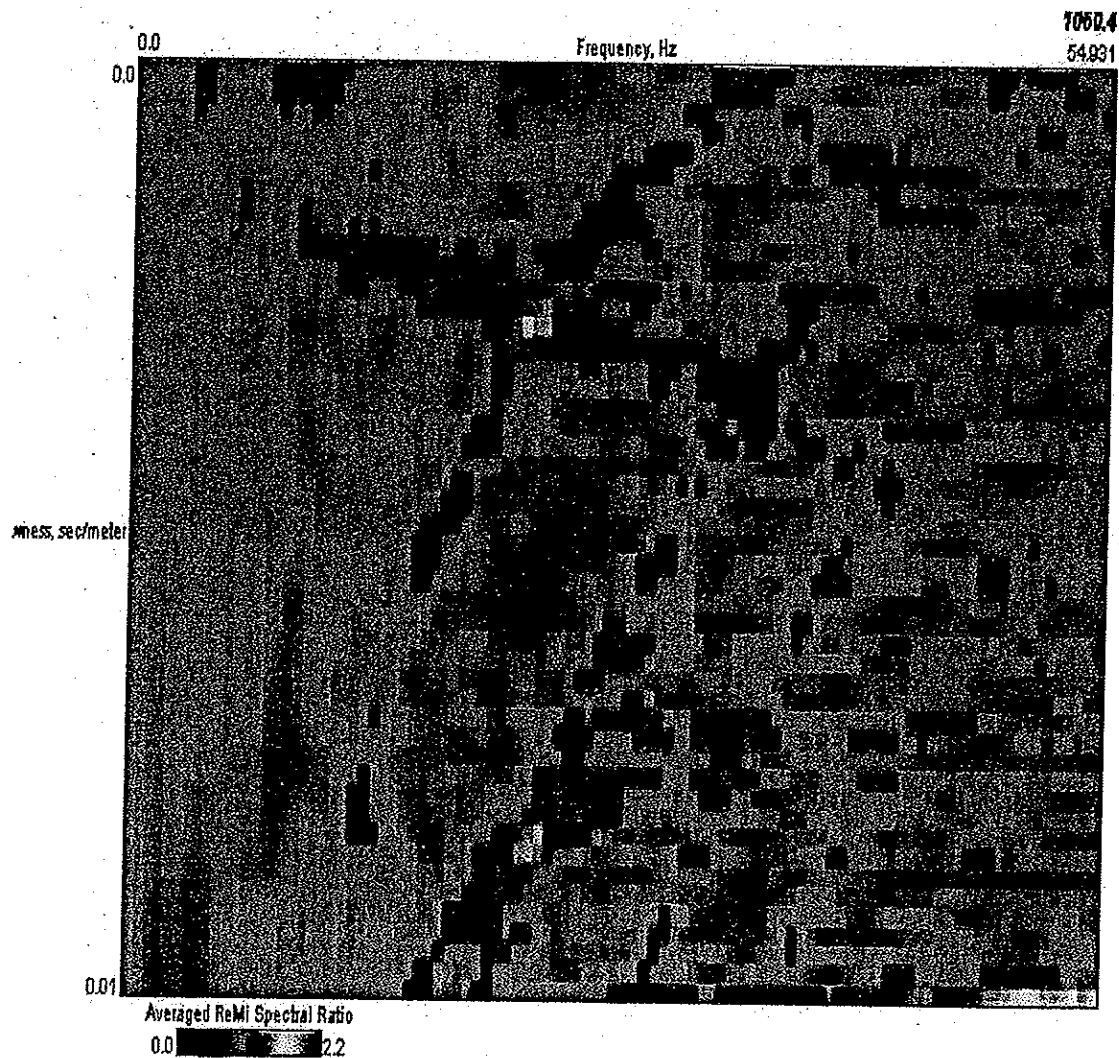
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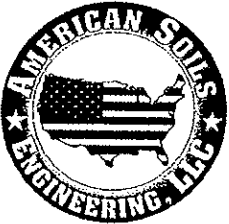
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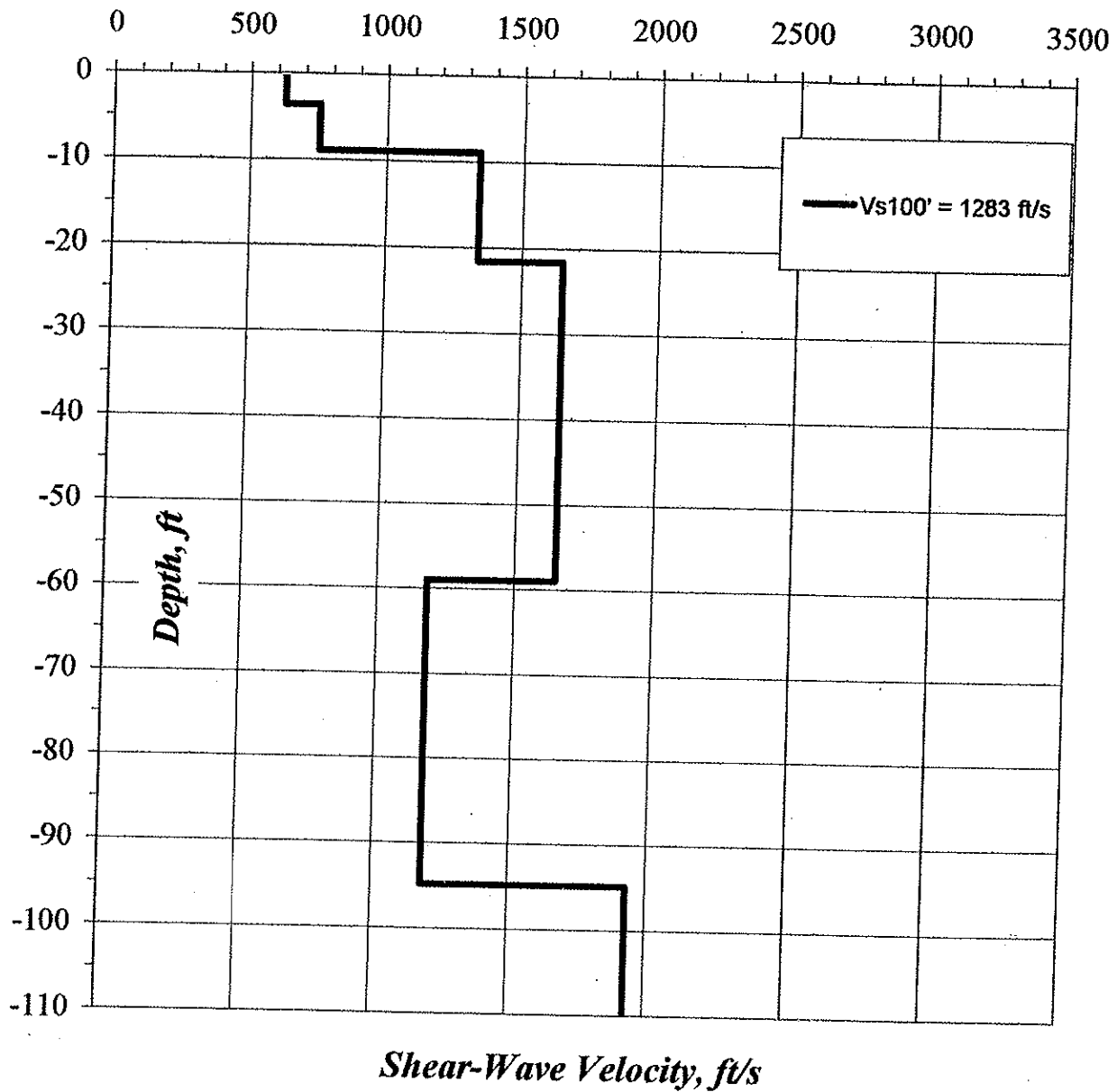
**Prepared For:**

Rhodes Homes

# p-f Image with Dispersion Modeling Picks



	<b>Prepared By:</b> American Soils Engineering, LLC 6000 South Eastern Ave., Suite 12E Las Vegas, NV 89119		<b>Project Name:</b> Golden Valley Ranch Mojave County, AZ
	<b>Project No:</b> PN: 1060-GEO	<b>Date:</b> 09-09-05	<b>Prepared For:</b> RHODES HOMES

***PN 1060.5: Vs Model*****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

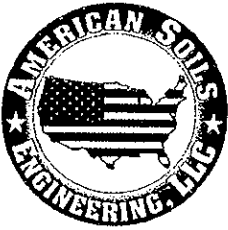
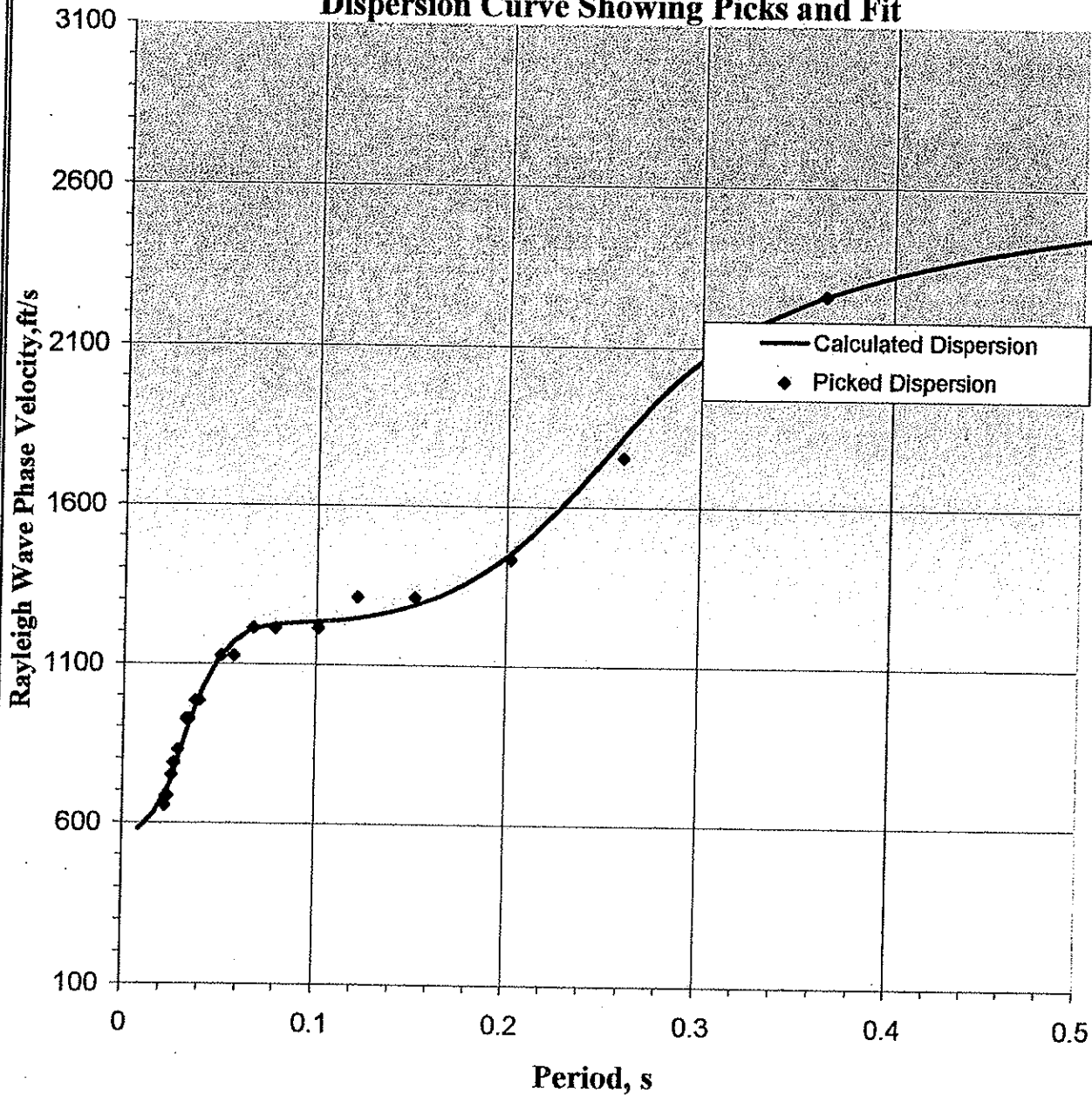
PN: 1060-GEO

**Date:**

09-09-05

**Prepared For:**

RHODES HOMES

**PN 1060.5: Supportive Illustration****Dispersion Curve Showing Picks and Fit****Prepared By:**

American Soils Engineering, LLC 6000  
 South Eastern Ave., Suite 12E  
 Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
 Mojave County, AZ

**Project No:**

PN: 1060-GEO

**Date:**

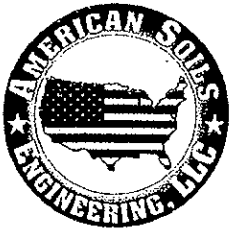
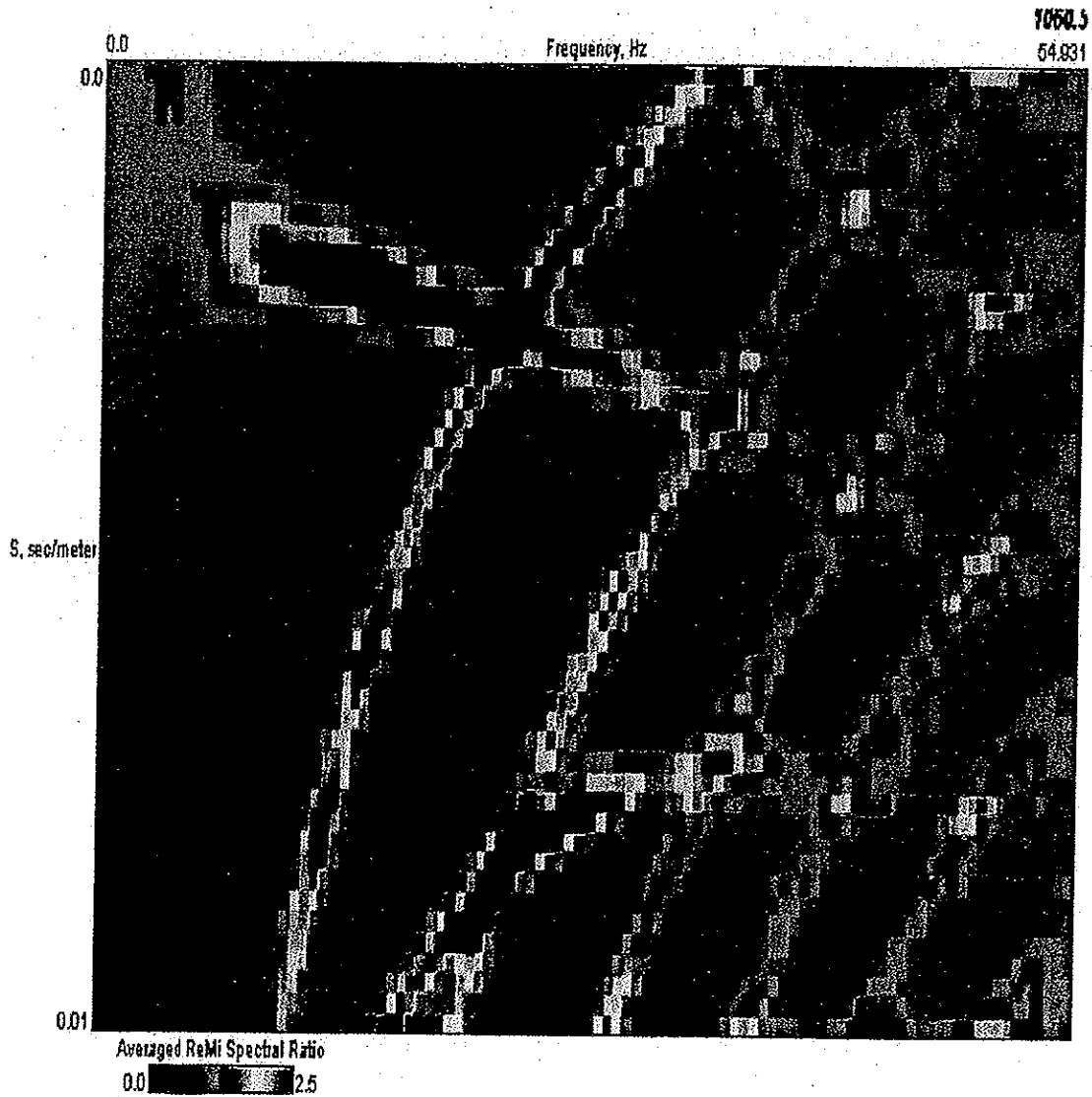
09-09-05

**Prepared For:**

RHODES HOMES



# p-f Image with Dispersion Modeling Picks



## Prepared By:

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

## Project Name:

Golden Valley Ranch  
Mojave County, AZ

## Project No:

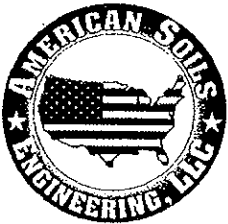
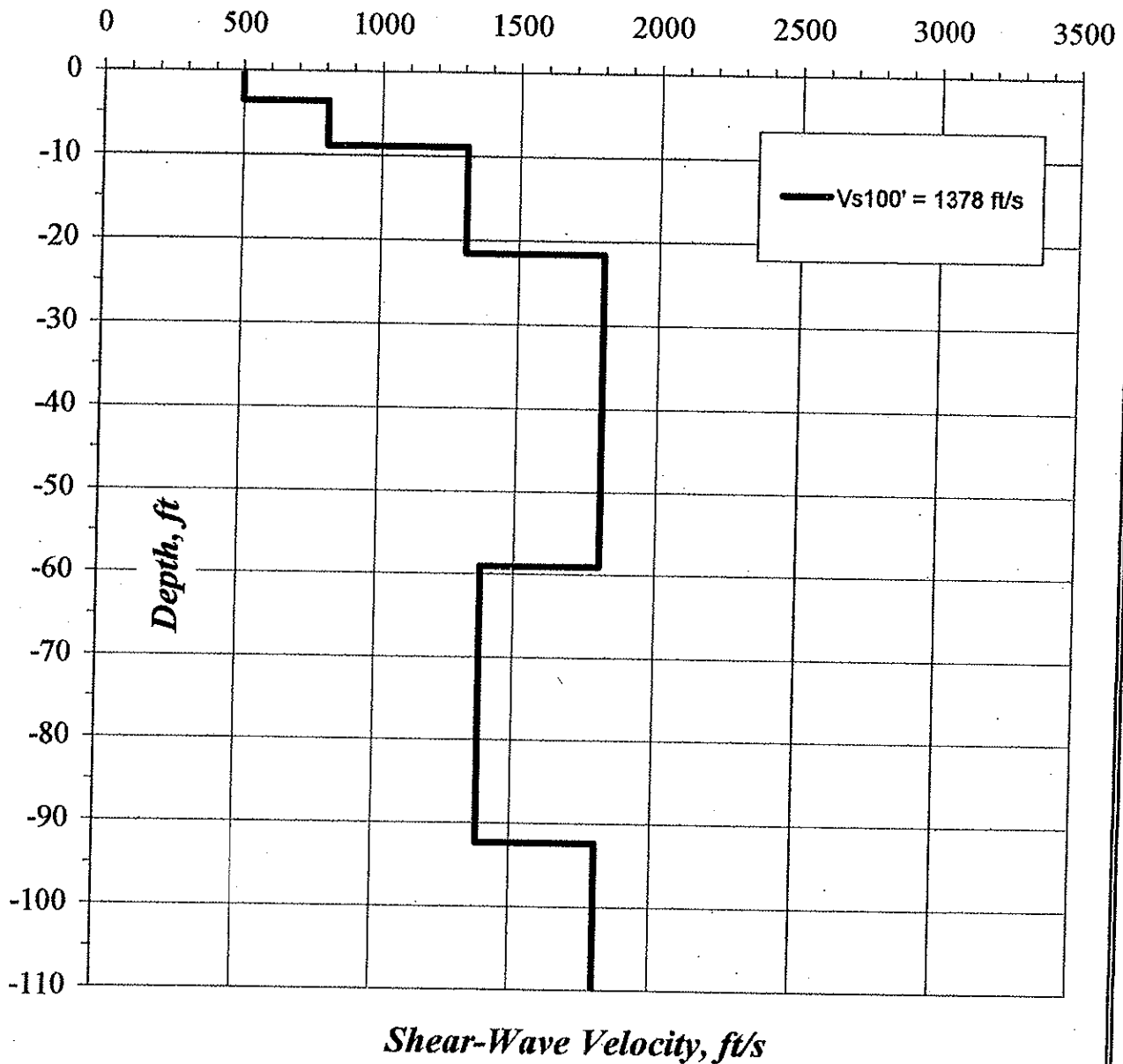
PN: 1060-GEO

## Date:

09-09-05

## Prepared For:

RHODES HOMES

***PN 1060.6: Vs Model*****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

PN: 1060-GEO

**Date:**

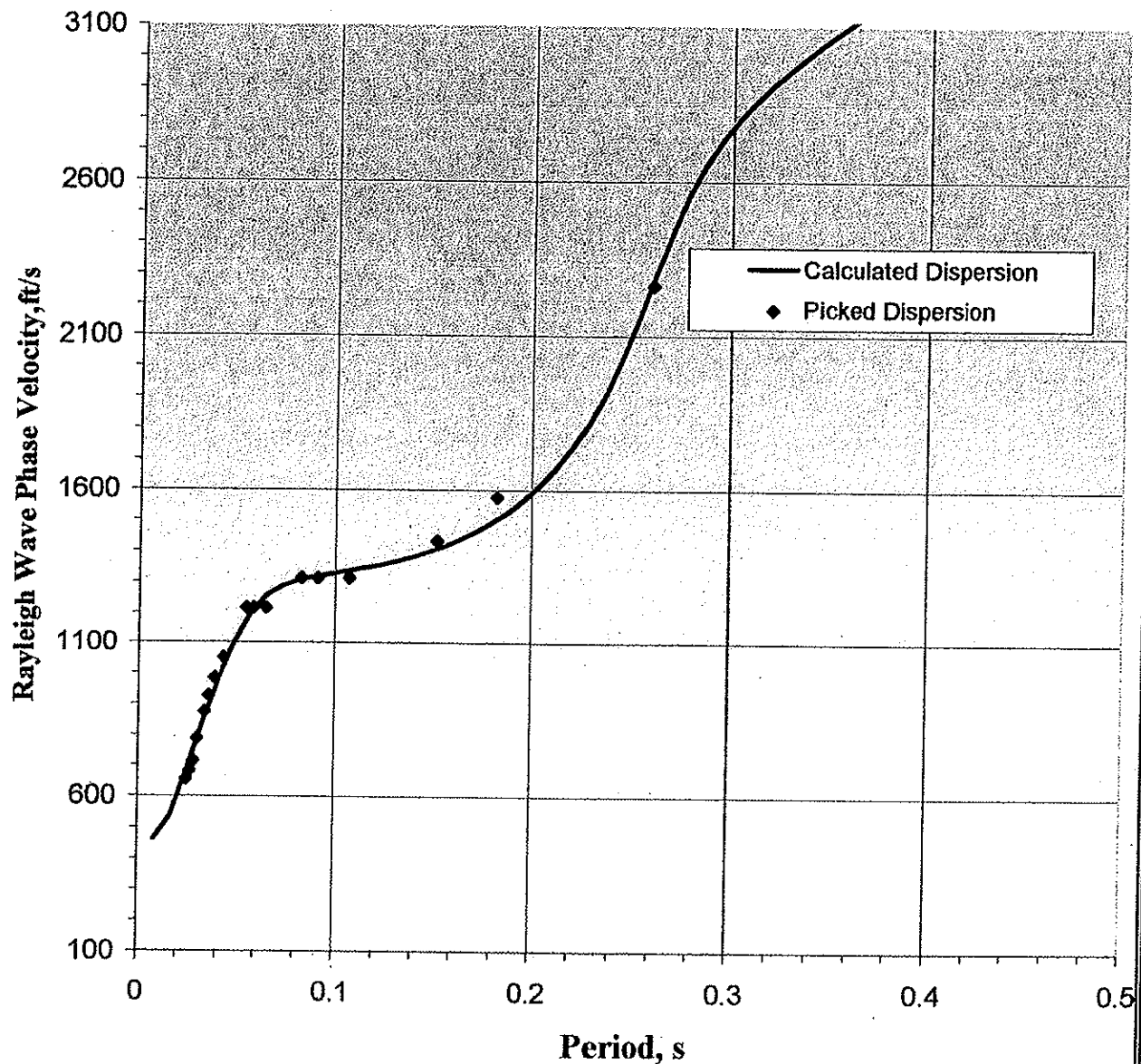
09-09-05

**Prepared For:**

RHODES HOMES



***PN 1060.6: Supportive Illustration***  
**Dispersion Curve Showing Picks and Fit**

**Prepared By:**

American Soils Engineering, LLC 6000  
 South Eastern Ave., Suite 12E  
 Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
 Mojave County, AZ

**Project No:**

PN: 1060-GEO

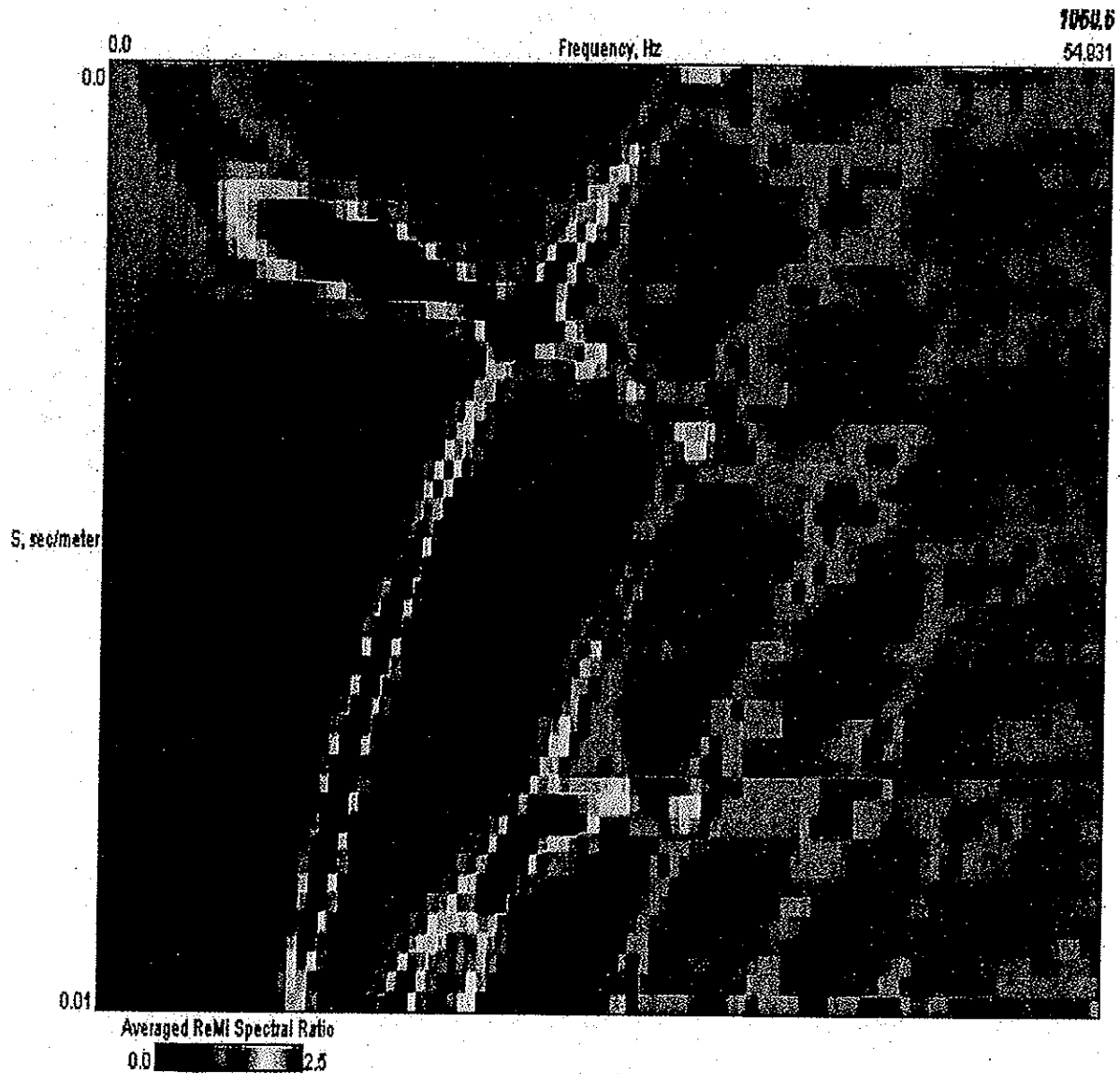
**Date:**

09-09-05

**Prepared For:**

RHODES HOMES

# n-f Image with Dispersion Modeling Picks



## Prepared By:

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

## Project Name:

Golden Valley Ranch  
Mojave County, AZ

## Project No:

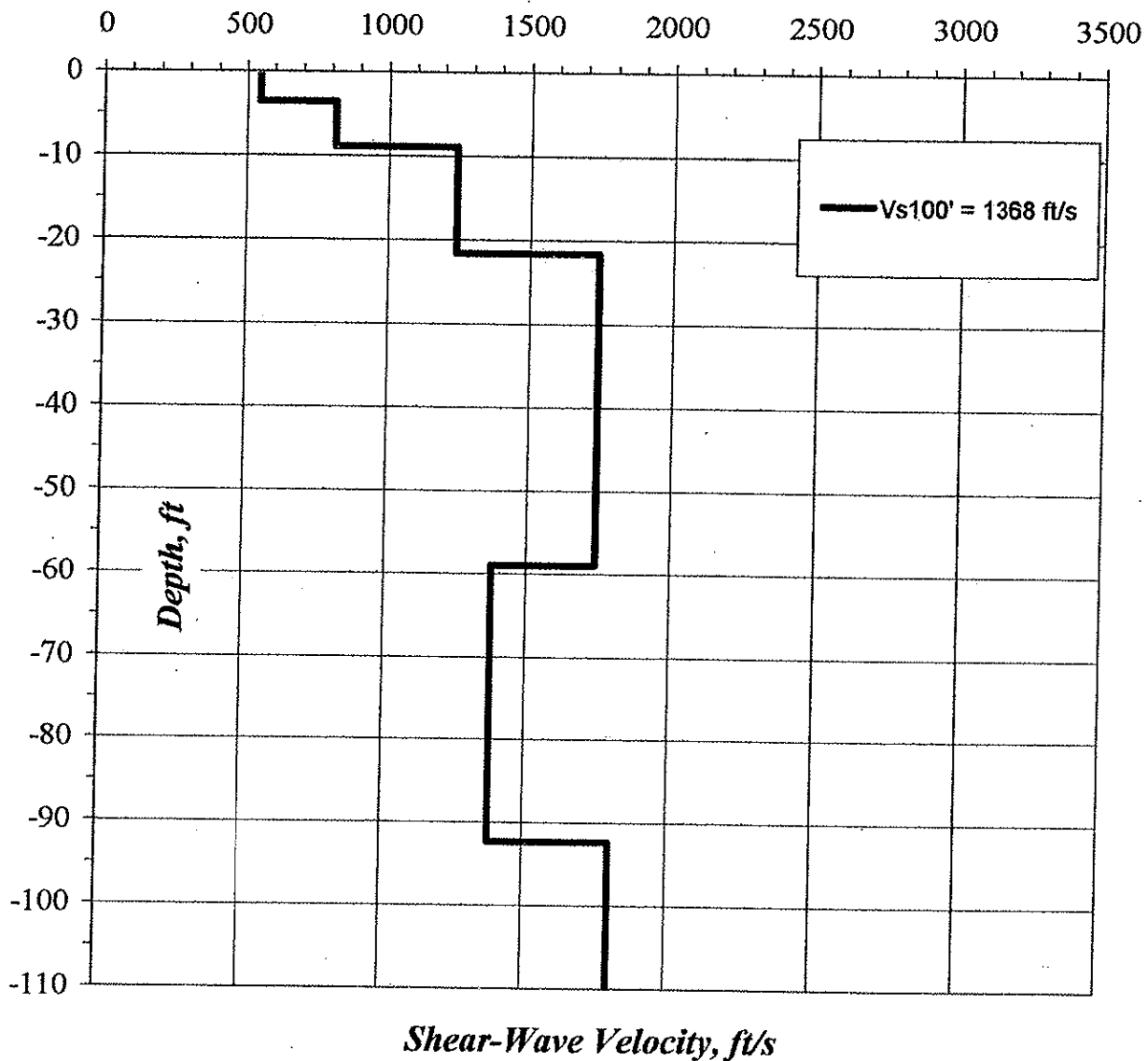
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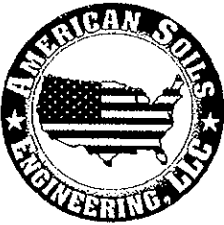
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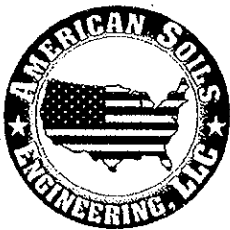
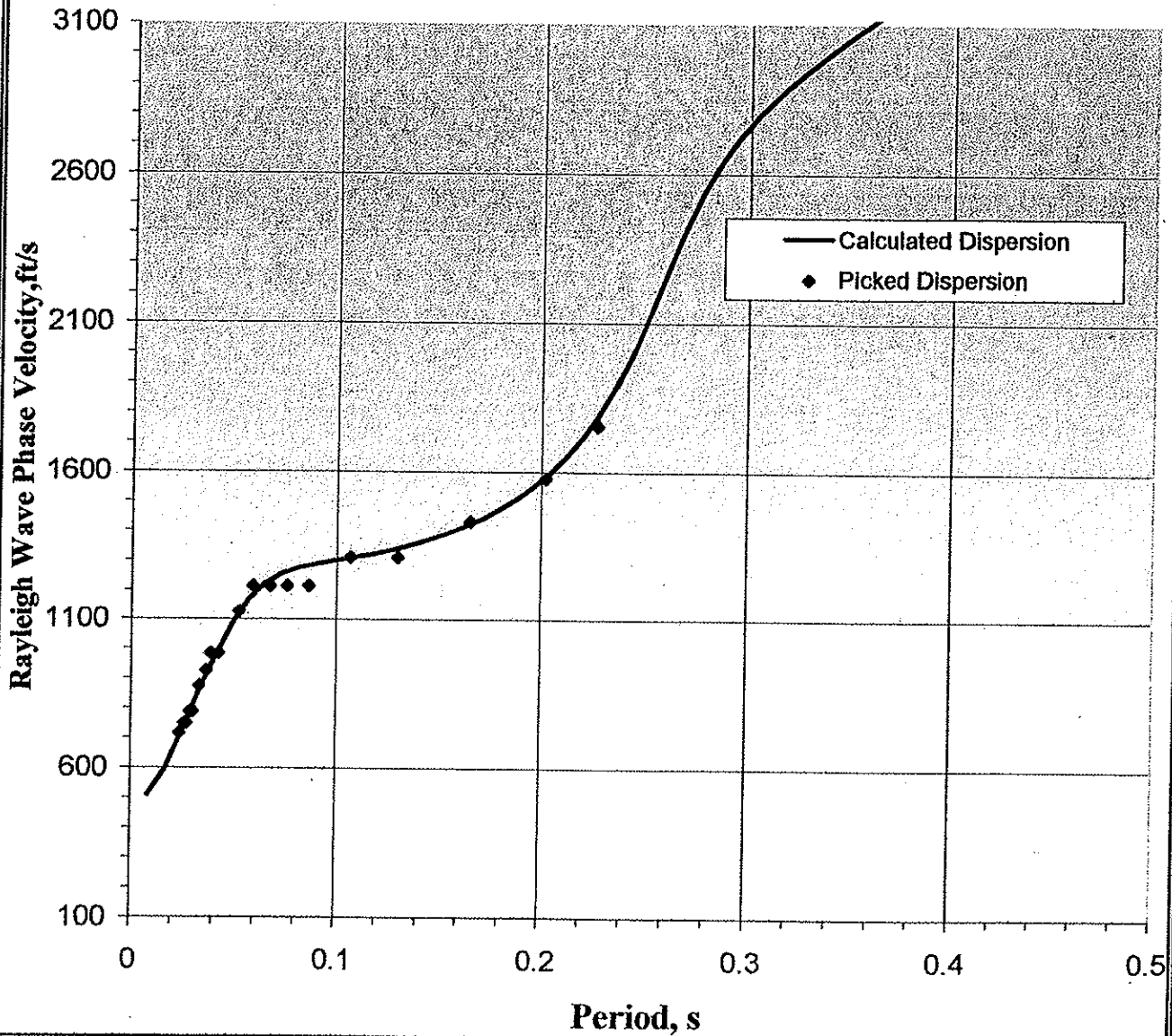
09-09-05

## Prepared For:

RHODES HOMES

***PN 1060.7: Vs Model***

	<b>Prepared By:</b> American Soils Engineering, LLC 6000 South Eastern Ave., Suite 12E Las Vegas, NV 89119		<b>Project Name:</b> Golden Valley Ranch Mojave County, AZ
	<b>Project No:</b> PN: 1060-GEO	<b>Date:</b> 09-09-05	<b>Prepared For:</b> RHODES HOMES

***PN 1060.7: Supportive Illustration*****Dispersion Curve Showing Picks and Fit****Prepared By:**

American Soils Engineering, LLC 6000  
 South Eastern Ave., Suite 12E  
 Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
 Mojave County, AZ

**Project No:**

PN: 1060-GEO

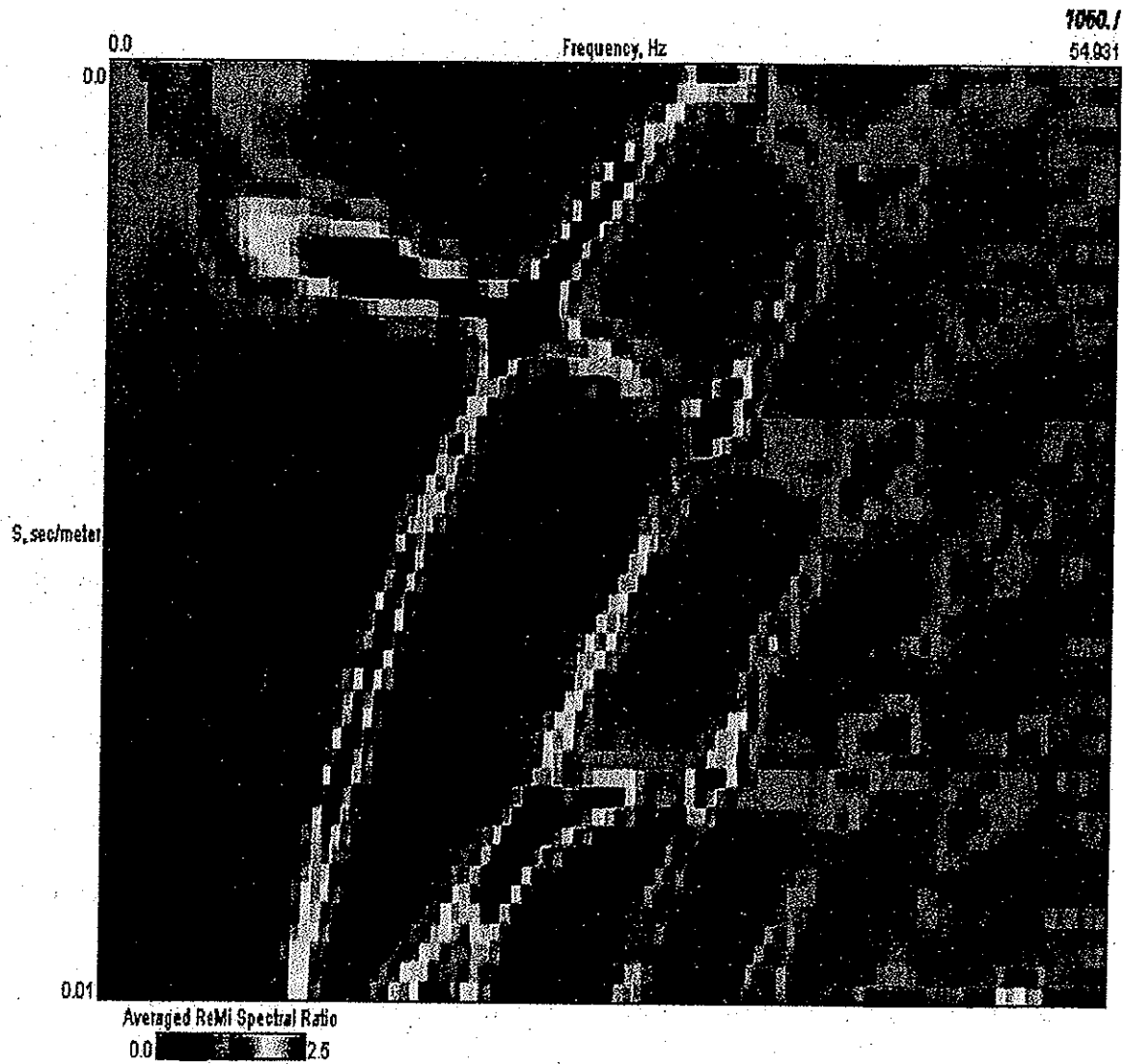
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09-09-05

**Prepared For:**

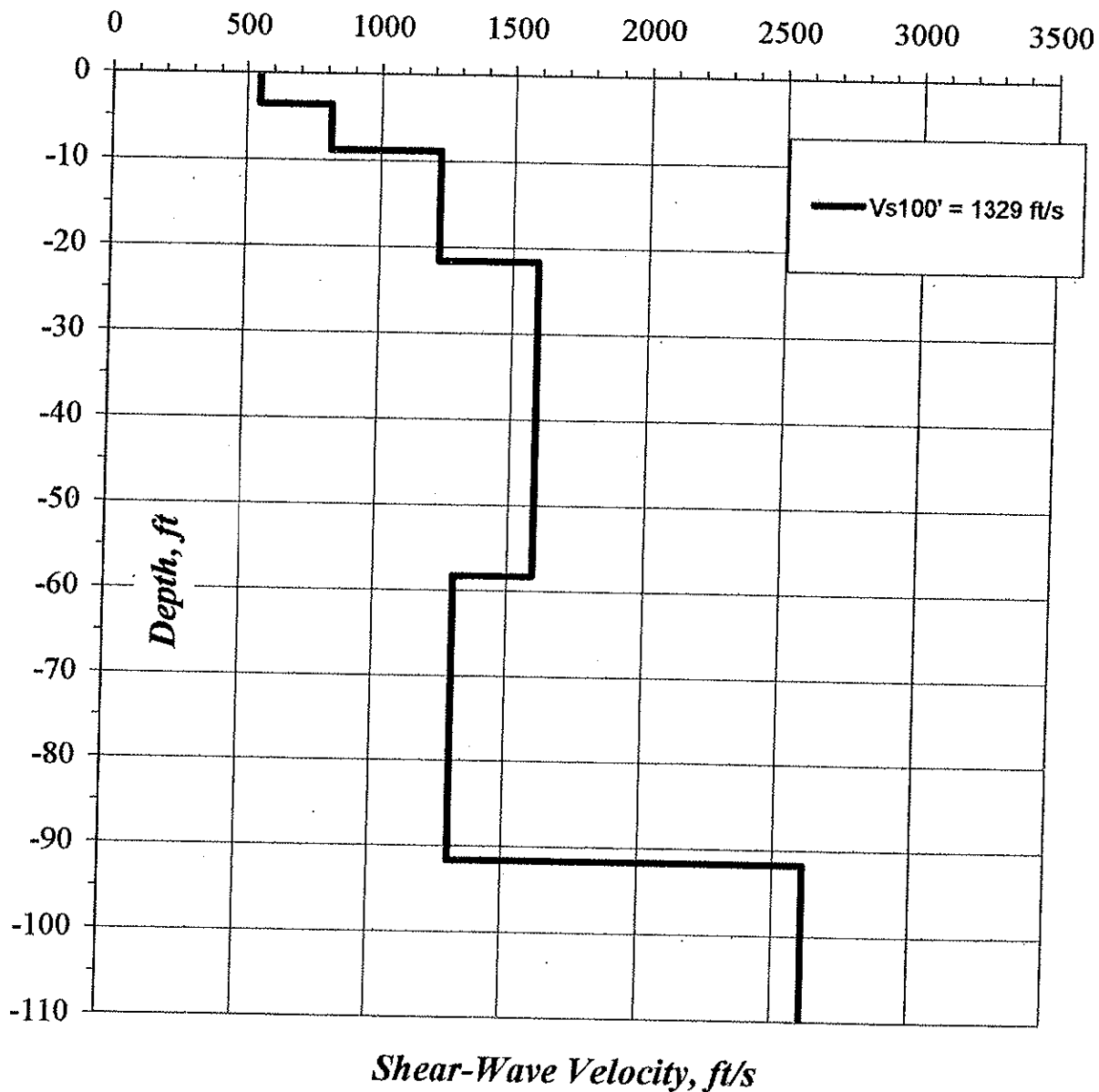
RHODES HOMES

# p-f Image with Dispersion Modeling Picks



	<b>Prepared By:</b> American Soils Engineering, LLC 6000 South Eastern Ave., Suite 12E Las Vegas, NV 89119		<b>Project Name:</b> Golden Valley Ranch Mojave County, AZ
	<b>Project No:</b> PN: 1060-GEO	<b>Date:</b> 09-09-05	<b>Prepared For:</b> RHODES HOMES



**PN 1060.8: Vs Model****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

PN: 1060-GEO

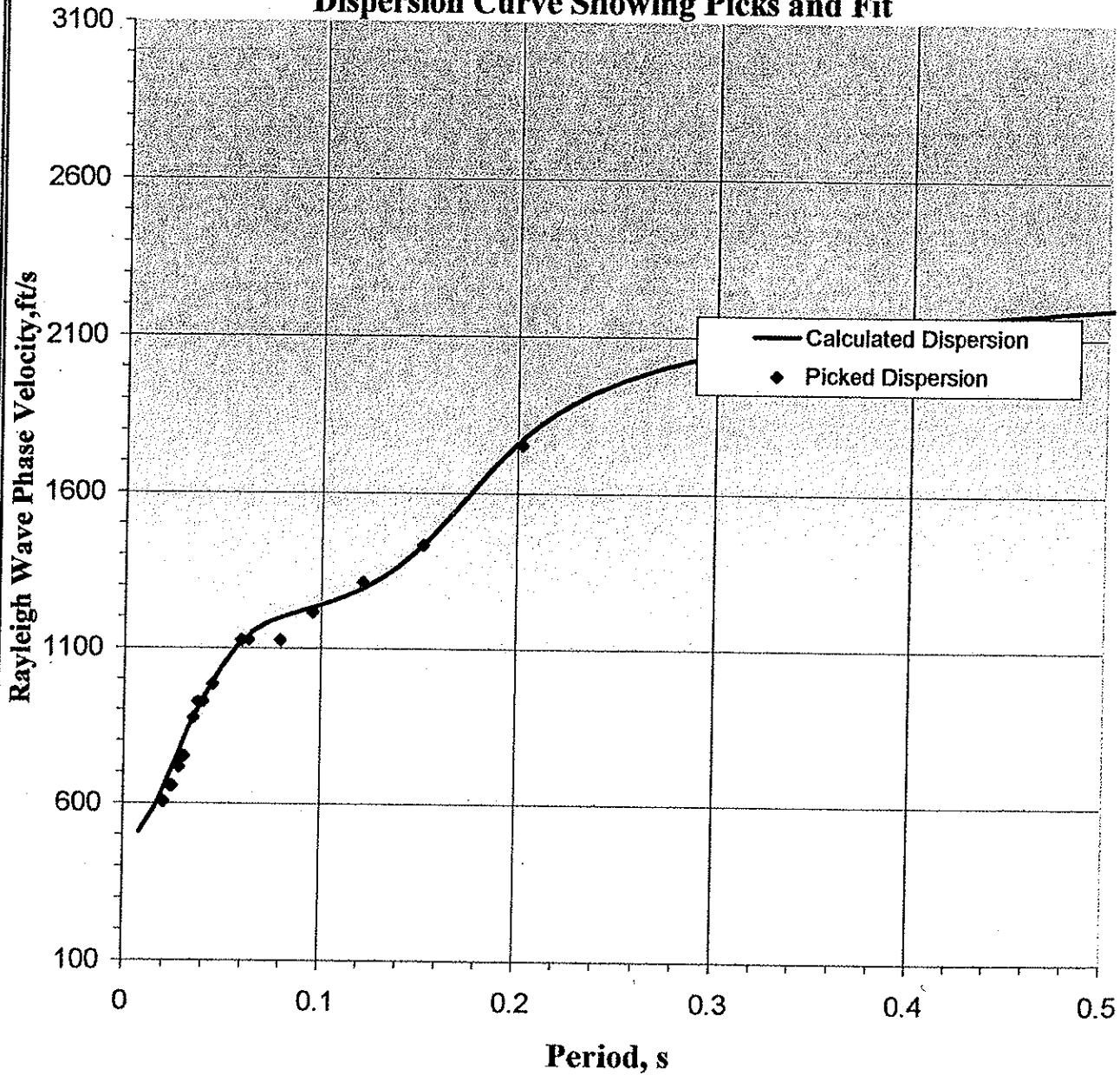
**Date:**

09-09-05

**Prepared For:**

RHODES HOMES



***PN 1060.8: Supportive Illustration*****Dispersion Curve Showing Picks and Fit****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

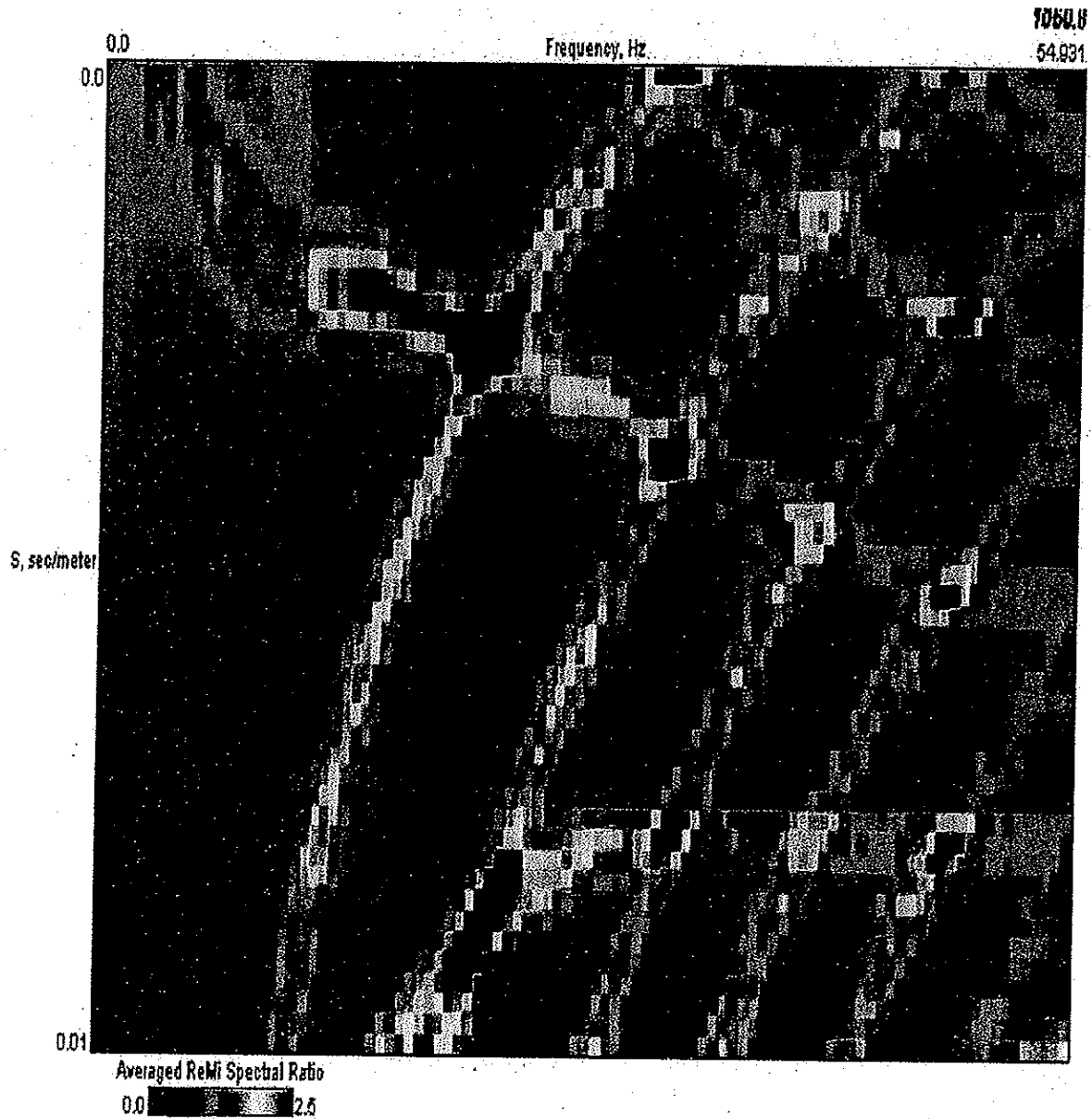
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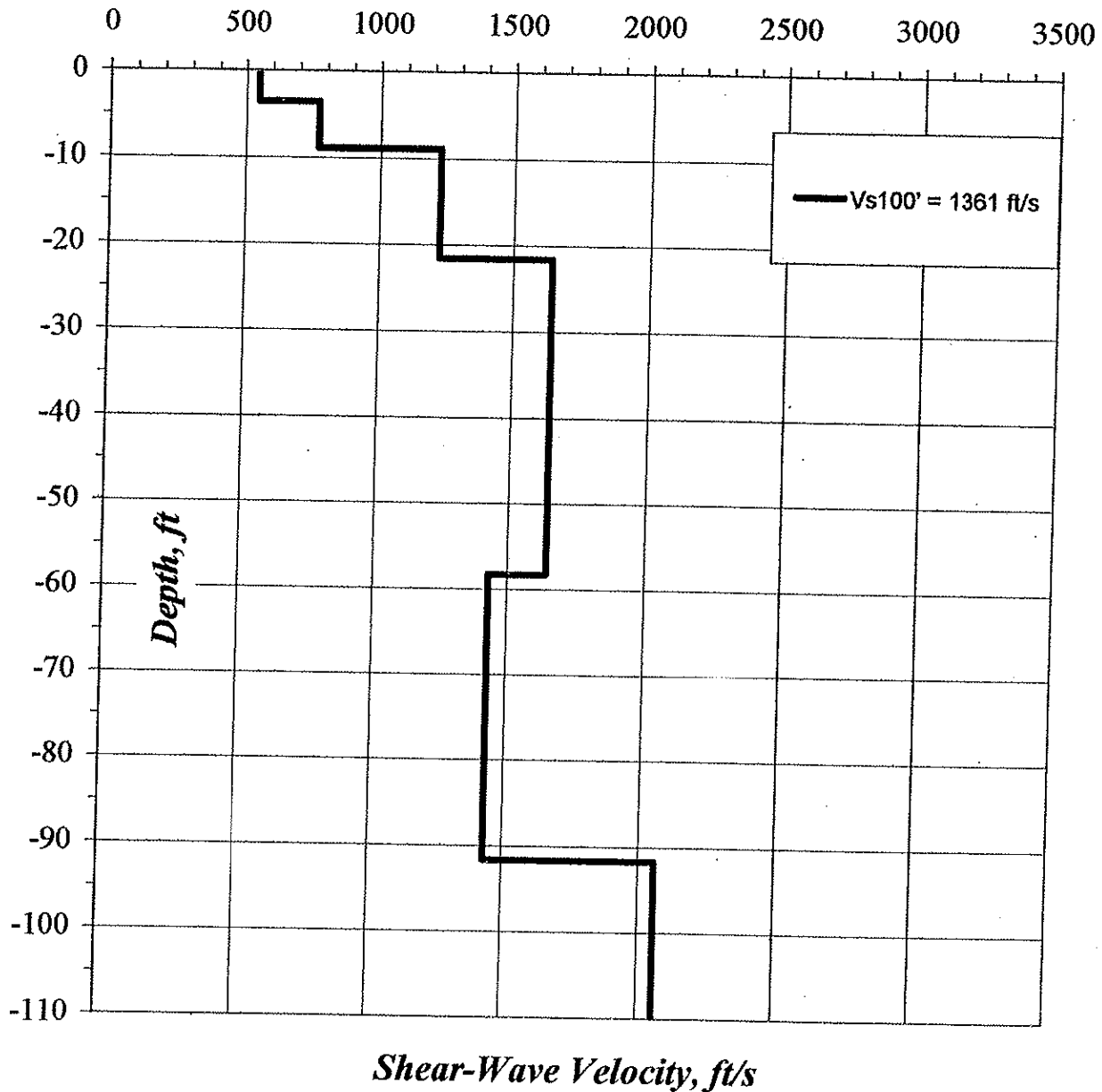
09-09-05

**Prepared For:**

RHODES HOMES

**p-f Image with Dispersion Modeling Picks**

	<b>Prepared By:</b> American Soils Engineering, LLC 6000 South Eastern Ave., Suite 12E Las Vegas, NV 89119		<b>Project Name:</b> Golden Valley Ranch Mojave County, AZ
	<b>Project No:</b> PN: 1060-GEO	<b>Date:</b> 09-09-05	<b>Prepared For:</b> RHODES HOMES

***PN 1060.9: Vs Model******Shear-Wave Velocity, ft/s*****Prepared By:**

American Soils Engineering, LLC 6000  
South Eastern Ave., Suite 12E  
Las Vegas, NV 89119

**Project Name:**

Golden Valley Ranch  
Mojave County, AZ

**Project No:**

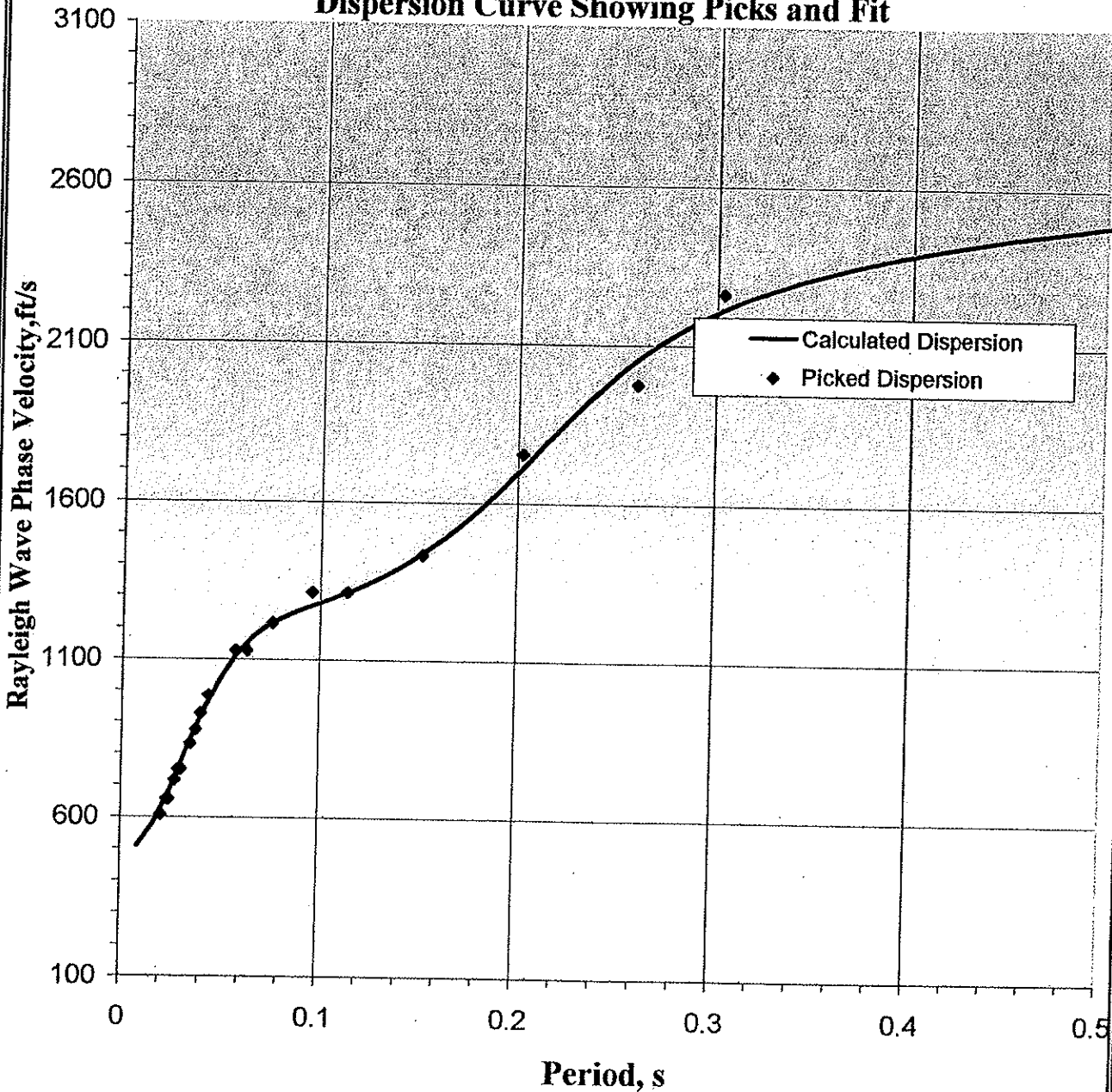
PN: 1060-GEO

**Date:**

09-09-05

**Prepared For:**

RHODES HOMES

**PN 1060.9: Supportive Illustration****Dispersion Curve Showing Picks and Fit****Prepared By:**

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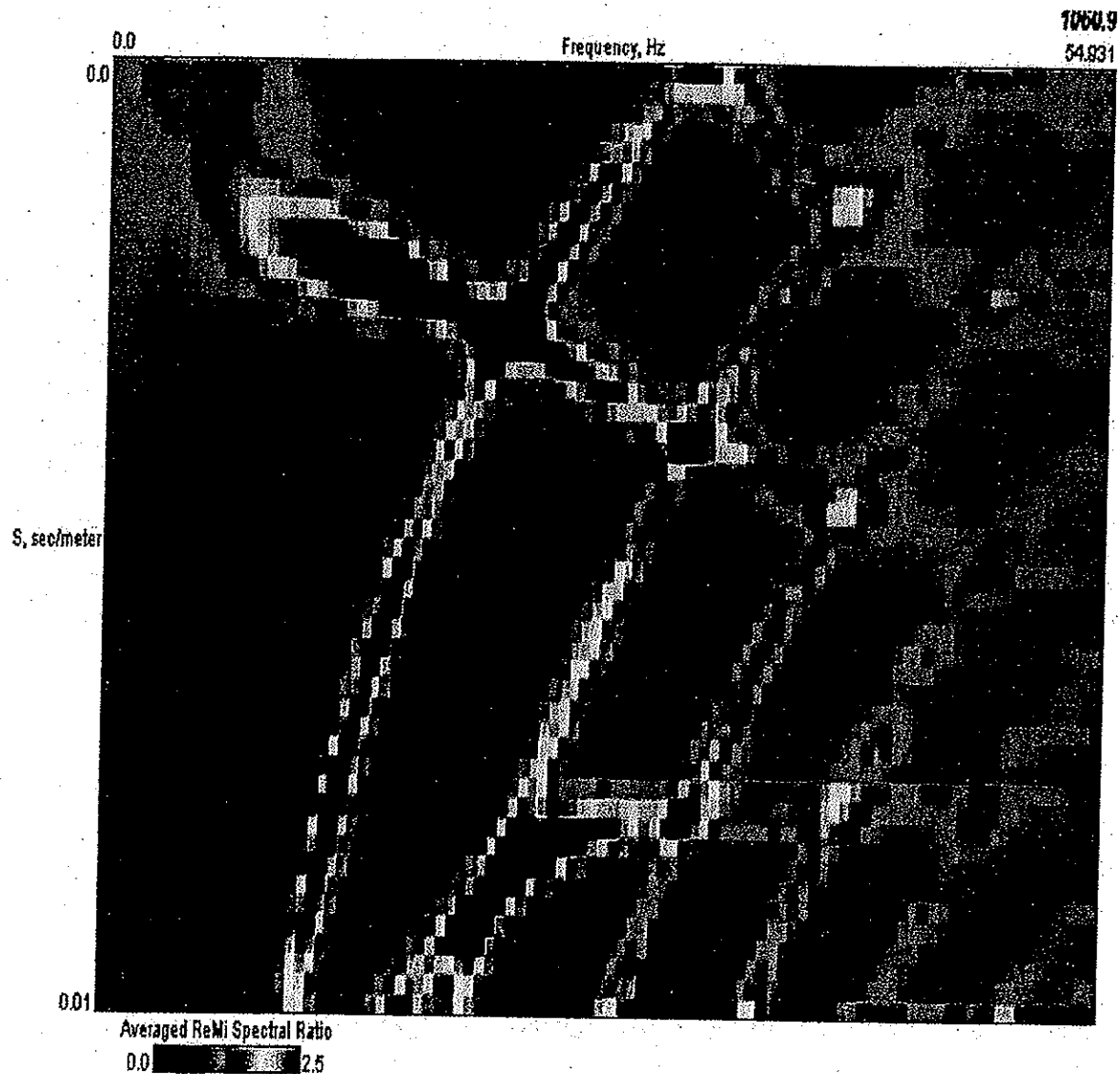
**Date:**

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# p-f Image with Dispersion Modeling Picks



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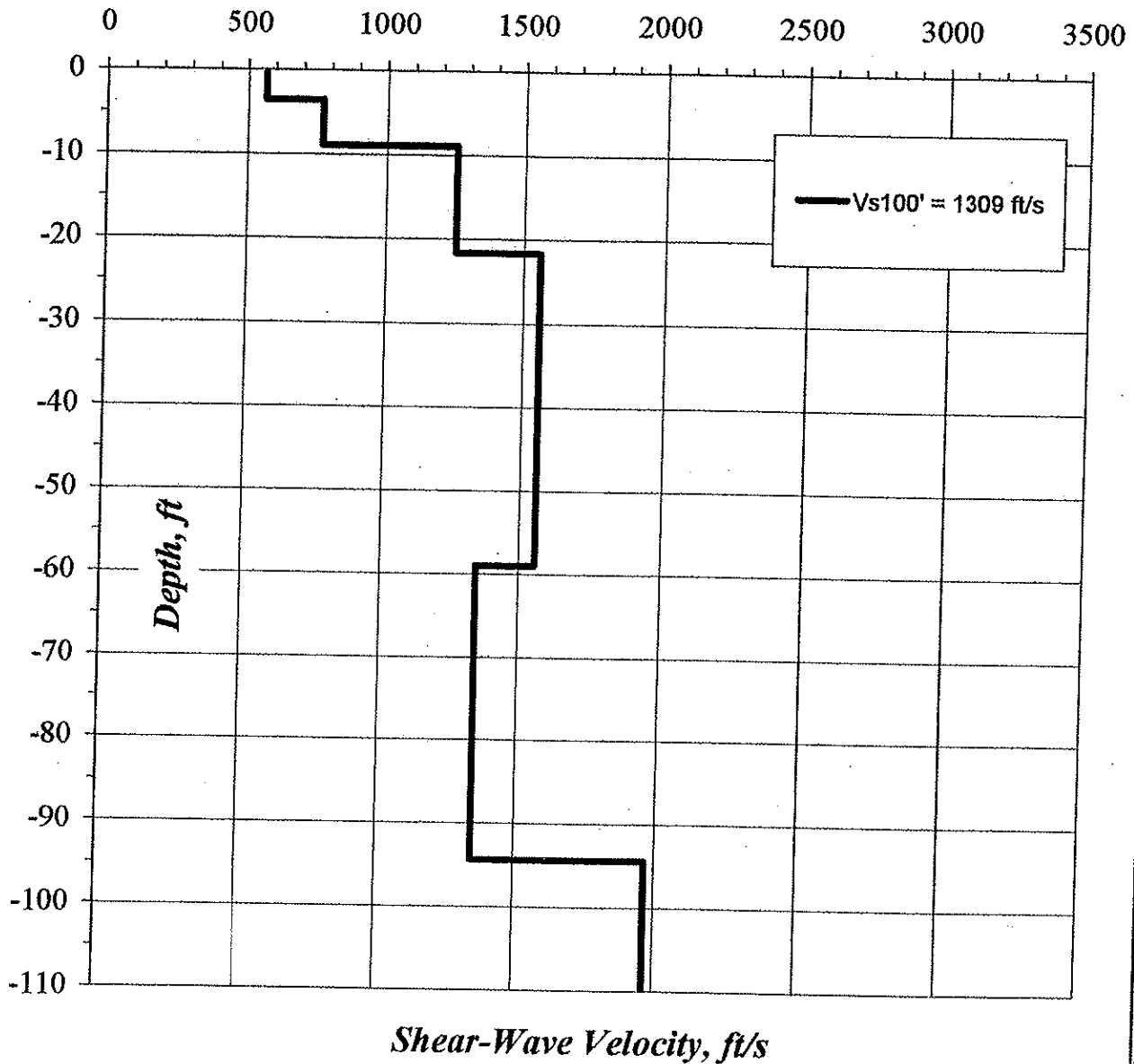
## Date:

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***PN 1060.10: Vs Model*****Prepared By:**

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